HOLISTIC VIEW ON SUCCESSFUL AGING: LIFE COURSE AND CURRENT FACTORS DETERMINING SUCCESSFUL AGING IN THAILAND

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Fulfillment of the Requirements for the Degree of
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ABSTRACT

Title of Dissertation	HOLISTIC VIEW ON SUCCESSFUL AGING: LIFE COURSE AND CURRENT FACTORS DETERMINING SUCCESSFUL AGING IN THAILAND
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Aging population is a global phenomenon. In Asia, aging population is rapidly increasing in many countries with less preparation compared to the western countries. The proportion of older adults is considerably higher and demanding the attention to understand successful aging. Researchers have long shown interest to understand the meaning and also the complex factors leading to successful aging. However, much of their understanding are limited to uni-dimensional aspects either biomedical or social facet. This dissertation studied holistic view on successful aging taking account of the denotation, measurement, and also predictors of successful aging. It emphasizes on three important issues of 'successful aging' in Thailand which are 1) the meaning of aging successfully: happiness in later years 2) measurement of the constructs which can reflect the conceptualization for successful aging 3) factors, including both life-course factors and current factors which can predict successful aging in Thailand. The chapters started with the overview of population aging, which raised the interest of this topic in Thailand. The background of 'successful aging', supports and also critiques of successful aging models were summarized. The study adds to the concept of successful aging by examining the relationships between the life course factors, current factors and successful aging. Specifically, the criteria of 'success' will be expanded including life satisfaction, well-being, and self- actualization. Realizing successful aging will not occur overnight when entering the old age; both life course factors and current factors, will be implemented into the proposed model following the continuity theory. This can provide more holistic conceptual understanding of successful aging. Data were obtained from 520 older adults living in Thailand, which 490 are Thais and 30 are non-Thais following the proportion from Thailand census in 2010. The questionnaires were

distributed in six provinces where the highest numbers of elderly people reside representing each six regions in Thailand. Exploratory Factory Analysis (EFA) using Structural Equation Modeling (SEM) was used to answer the following research question: To what extent do the life course factors and current factors relate to successful aging. The major findings show that there are important factors, resilience and mental health maintenance which could positively influence successful aging. Therefore, this leaves the room for the governmental units and related institution to apply better policy for both current older adults and the next generation to age successfully.

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CHAPTER 1

INTRODUCTION

1.1 Background on the Aging Population

The aging population is proof of human success in terms of economic growth and the development of public health and medical advancements over disease and injuries (Kinsella & Phillips, 2005). The life expectancy has been remarkably increased by medical interventions and the relative success of public programs for older adults' life improvement (Department of Health and Human Services, 2015). In 2016, U.S. citizens' life expectancy was as high as 78.7 years (Control & Prevention, 2016). However, the situation of population aging has rapidly become more serious these days and could turn into one of the important social transformations in the twenty-first century. The number of older persons has increased greatly in most countries, and this is expected to accelerate in the coming decades. Between 2015 and 2030, the number of older people is expected to grow from 901 million to 1.4 billion, which is as high as a 56 percent growth, and the increase is even more dramatically projected to be nearly 2.1 billion older persons in 2050 (United Nations, 2015). As recognized by the United Nations (UN), there are many challenges regarding the aging population.

With increased longevity and decreased fertility rates in technologically-advanced populations, the aging society has become a problem in most countries, including both developed and developing countries. This is a global phenomenon, as the proportion of people that are considered elderly people is increasing rapidly around the world. There are also higher numbers of people entering the aging group. Population aging is a global phenomenon, but the distinction in timing and dynamics across countries is significant (Schoeni & Ofstedal, 2010). The populations of developed countries have been aging well for a long time; however, this process

began late in the developing countries. Developed countries have experienced population aging earlier and at slower rates, for example in Western Europe, Australia, and the United States (Schoeni & Ofstedal, 2010). The governments there have had the time and resources to prepare policy directions for their senior citizens, and the people are also more ready and prepared to enter the elderly stage of life. By year 2050, however, only 22 percent of older people in the world will live in the developed nations (Kinsella & Phillips, 2005).

In the developed countries, the situation regarding the aging population is not as good as before. In the USA, the older population is expected to be 72 million by 2030, which is almost 20% of the population (Hetzel & Smith, 2001). More than 20% of U.S. citizens over 75 years require support, caregiving or elderly care in their daily activities, such as doing housework or taking medications (Adam, Martinez, & Vickerie, 2010). Additionally, the OECD countries, the U.S., Canada, and European countries are expecting significant proportions of elderly and bigger portions of GDP expenditure for public healthcare and pension programs (Casey et al., 2003). This pressures the governments to adapt national policies increasing the overall living standards, productivity growth, and financial sustainability. Not only national aspects, but personal aspects such as life satisfaction, well-being and retirement plans also need to be focused on.

In Asia, the situation is even worse since the pace and dynamics of the aging population are very fast with fewer resources, and less experience and preparation. The number of older persons are expected to be double, from 535 million in 2015 to 1.3 billion in 2050 (United Nations ESCAP, 2017). This is consistent with information from the Asian Development Bank which indicated that Asia is predicted to become the oldest region in the world, having estimated 922 million people aged 65 and over by 2050 (Jayant Menon, 2009).

In contrast to the developed countries, the aging population in Asia is more unique and the aging population is a lot more prominent because of less preparation for it, together with intense social and economic changes (Chan, 2005). The society structure is different because Asians rely more on the family-based system and older

adults traditionally live with larger families. Formal and informal programs to support older adults, besides the family, are as well scarce.

Thailand has faced an aging society problem for more than ten years and is entering an aged society (National Statistical Office of Thailand, 2014)-it is a country that is facing a serious and rapid aging population. The proportion of adults and elderly has increased, especially females, at the same time the number of children has also been decreasing (Wongboonsin, 1998). The Thai population aging rate is also one of the most rapid in Asia and is also rising at a faster pace in the western countries; the proportion of older persons increased to 9% in 2000 and is expected to be 18% of the total Thai population by 2020 (Knodel & Chayovan, 2008a). It has been indicated by the United Nations that Thailand has been facing an aging society problem since 2005. This means that more than 10 percent of the population is above 60. As such, Thailand is moving toward an aged society, with more than 20 percent of the people being above 60 by 2024-2025.

The impact of the aging population on expenditures, productivity, and public programs can bring opportunities for many changes in the future. The demographic structure will change losing a large amount of the labor force. Reformations are needed to adjust to these demographic changes. First, the national policies need to be amended to the aging demographic development. Higher numbers of aging people need better living standards. The labor force must be more responsible to support the aging population in the society. The GDP and the countries' productivity will also be more difficult to increase. Secondly higher amounts of government money need to be spent for age-related expenditure. This can be a challenge as government needs to prepare public pension programs and healthcare support. Healthcare costs have increased rapidly as a share of the GDP in many countries (Casey et al., 2003).

This raises the interest of the present author in the topic of the aging population in Thailand. The data have shown that a relatively large number of people will be in the elderly group, and this has called the researcher's attention to study the phenomenon of successful aging in Thailand.

1.2 Background on Successful Aging and Significance of the Study

From previous overviews on the population aging, it can be concluded that bigger proportions of people are in and entering this aging group. The general public is expecting a longer lifespan than ever (Christensen, Doblhammer, Rau, & Vaupel, 2009). However, the increase in lifespan does not automatically point toward better health, functioning, happiness, or life satisfaction in later years. In other words, it may be just adding years to life, ignoring whether that life is well-lived from the view of older persons. As the older segment of the population is growing consistently at a faster rate compared to other groups of the population, society has begun to give attention to this group and to increasing healthy lifestyles (Lee, 2011). One of the main attentions of those countries facing an aging society is what defines "successful aging" and how it can be achieved. According to Havighurst (1961), successful aging is the most common term used to define a "good old age" and is also important to gerontology.

Before the 1980s, social gerontology focused on the distinction between the normal and the sick (Bülow & Söderqvist, 2014; Rowe & Kahn, 1997). Rowe and Kahn defined a third group that successfully aged, introducing the concept of successful aging. Successful aging was defined as having a low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life (Rowe & Kahn, 1997). In the 1990s, much of the research and predictors of successful aging were conducted by the MacArthur Foundation under the supervision of Rowe and Kahn (Berkman et al., 1993; Seeman et al., 1994). They further suggested that people have the ability to age successfully using individual health behaviors and that there are also psychosocial factors involved (Rowe & Kahn, 1998).

In the academic area, research on successful aging has caught the attentions of many academics and gerontologists and various models have been put forward to explain aging, but the most common framework is Rowe and Kahn's model (Bowling & Dieppe, 2005). This model is generally accepted in the gerontology literature, with more than 10,000 citations for the two publications of this model (Rowe & Kahn,

1987; Rowe & Kahn, 1997). This model has a good scientific background for apprehending how to age healthily across the life course (Crowther, Parker, Achenbaum, Larimore, & Koenig, 2002).

Even with the wide recognition of Rowe and Kahn's model, it has been criticized for focusing only on the biomedical aspect of health, ignoring the older person's own perception of whether he or she has lived or aged successfully (Phelan & Larson, 2002; Pruchno, Wilson-Genderson, Rose, & Cartwright, 2010; Strawbridge, Wallhagen, & Cohen, 2002). Rowe and Kahn's model itself, even though it is a classic and common framework, has limitations. A number of researchers have criticized the model due to its overly optimistic nature, assuming old people to have high physical function or the absence of disease. It is quite difficult to reach that idealistic stage in one's old age.

Successful aging has a wide range of definitions made by several groups of researchers. For example, those that use biomedical models tend to focus on health, for example physical and mental functioning. However, social models emphasize social functioning, life satisfaction, and other aspects of a person's psychological well-being. Successful aging then can be seen to be made up of various factors (Bowling, 2007). Nevertheless, most models ignore the perception of successful aging from the older people's view themselves. Further, most models that have been introduced were uni-dimensional, reflecting only biomedical, psychological, or societal aspects and introducing only some specific groups of factors that lead to successful aging.

The researcher of the present study has gained a basic understanding of successful aging introduced by Rowe and Kahn; but according to the criticisms, the model of Rowe and Kahn's should be modified and improved in terms of its comprehensiveness. The term "successful aging" should be clearly identified from the older persons' point of view. Not only should the biomedical factors be incorporated into the model, but the life course factors and socio-economic factors should also be considered. Successful aging is not as easy as it seems, and it cannot be judged only according to biomedical factors. Through the process of aging, older

adults need to face many complex conditions-not only biological changes, but also new circumstance, both socially and psychologically (Riley & Bond, 1983). Some adults may not age successfully, and this might not be due to only biomedical reasons. It could be due to, for example, the loss of social status, the lack of social engagement, or suffering from the death of one's spouse or family members or friends. All of these explanations make the attitude towards older persons and the process of aging quite negative. Without good understanding, older adults might be viewed as sick, isolated, or depressed people that are in always in need of assistance from others. In Thailand, the increase in the aging population obviously poses challenges on regarding successful aging. Compared to past decades, older Thai people today have better standards of living and material well-being, mainly supported by their children, such as constructed houses, household appliances, and facilities (Knodel & Chayovan, 2008a, 2008b). However, this still does not guarantee successful aging.

Therefore, further study is needed in order to increase knowledge of the area of successful aging, including its meaning, measurements, and also the predictors of successful aging. With the changing demographics moving towards an aging society across the world, the research on this topic is essential at national, social and individual levels. Western countries have more knowledge and support of population aging as they have already experienced this phenomenon, but research in Asian countries is still required. This study believes that Thailand, the home country of the researcher, represents a good place to study the successful aging of individuals.

1.3 Statement of the Research Problem

According to the background on the aging population and successful aging, the researcher of this study seeks to provide a holistic view on successful aging in Thailand. Successful aging is an important aspect of the society, which is experiencing a fast-growing aging population. The number of older adults in Thailand has increased and is projected to increase progressively (NESDB, 2013). Older adults are expected to become more important in the Thai society.

Even though Thailand has extensive sources of information concerning the socio-demographic and economic profiles of the elderly, for example from the National Statistical Office, the national policies, programs, and projects regarding successful aging are still limited. Examples of governmental support of the aging population are mostly related to giving the elderly financial aid or gifts. However, real support from both governmental side and private organizations is still insufficient. People living in the same country could be facing very different situations. Those in city areas for example can be quite independent financially, socially, and psychologically. However, those in rural areas may still be reliant on their children for material, social, and psychological support. The governmental and private support for the aging society is still insufficient. Lastly, although many scholars have studied and proposed models regarding successful aging, there are insufficient research studies focusing on the holistic view of successful aging.

In response to this problem, this study proposes to investigate both the life course and current factors determining successful aging in Thailand. This research aims to understand how and to what extent these factors affect successful aging. Finally, the findings from this study will contribute to recommendations for policy or project extension, serving aging people in the future.

1.4 **Research Questions**

Studying the factors determining successful aging is important for understanding older adults, as it can assist them in aging well. This study seeks to investigate how people can age successfully, understanding both life course factors and current factors. As successful aging may not be achieved overnight when people get older, life course factors such as personal-achievement profiles and resilience, which are accumulated over one's life course, will also be included in the model. After reaching later years in life, the current factors such as health behaviors, social engagement, and financial well-being can help older adults maintain or even regain their declined health, which can later lead to successful aging. The problem focus is not only on the number of elderly people or increasing the years of their lifespan, but

also on how these people can age happily, live in wellness, and be true to themselves until the very last stage of their lives. The model will test which factors are significant for successful aging.

There are two main questions to be answered in this research.

1. To what extent are life-course factors related to successful aging in Thailand?

   The life course approach factors are the types of factors that are accumulated over one's lifespan, as stated above. The concern here is one's life history. These factors include personal- achievement profiles and resilience. What people have achieved during their lives, for example during their childhood, academic attainment, occupation, income level or social status, are life course factors. Good achievement profiles could be good predictors of successful aging. Another life course factor is resilience, which is the ability to adapt and adjust through adversity, gaining positive results (Luthar, Crossman, & Small, 2015). Since adversity is unavoidable in life, resilience could be developed over one's life time, leading to health maintenance and also to successful aging.

   Life course factors can be tested as to whether they have contributed to successful aging. As successful aging does not occur suddenly, the factors accumulated over the life course can be considered as factors that can lead to successful aging. Moreover, the life course factors can also affect the current factors. Following continuity theory, people will find adaptive strategies to continue the same lifestyles they are used to.

2. To what extent are current factors related to successful aging in Thailand?

   As health is a unique factor that will decline as people age, the researcher of this study is attempting to determine which factors are the essential ones that significantly influence successful aging in Thailand.

In addition to life course factors, current socio-economic factors are also important in terms of successful aging. For instance, following the idea from Grossman that "health" depreciates overtime when people age (Grossman, 1972), health is one of the important factors for older adults in terms of successful aging. Additionally, the persons' financial well-being is one of the social-related factors connected with aging. In Thailand, the economic gap in economic well-being is quite large. The Income Gini coefficient is one of the indicators which shows the income distribution in the country. A coefficient of zero expresses perfect equality, where a coefficient of one expresses maximum inequality of income. From a UNDP Human Development report, Thailand's income distribution is high and more severe compared to other countries in Southeast Asia (Klugman, 2011). This indicates that there is a group of high income people that are financially-stable, and other low-income groups who are in financial distress. Financial difficulties can distract person from his or her best. This could block or slow down elderly people from a lifestyle that leads to successful aging. Another socially-related factor is social engagement. This is similar to Rowe and Kahn's concept of life engagement. Thailand is a collective culture, which emphasizes group norms and is society-based. The social engagement factor is added to the proposed model in the present study as one of the current factors that can help older persons maintain their health and finally lead to successful aging.

1.5 Scope of the Study

This study focuses on studying both the life course (personal-achievement profile and resilience) and the current factors (current health behavior, current financial well-being, current social engagement, and health maintenance) that determine successful aging in Thailand. The data were obtained from 520 older adults living in Thailand; which 490 were Thais and 30 were non-Thais following the proportion from Thailand's census in 2010. The questionnaires were distributed in six provinces where the highest numbers of elderly people reside, representing each six

regions in Thailand. Structural equation modeling (SEM) was used to answer the following research question: To what extent are the life course factors and current factors related to successful aging in Thailand?

1.6 **Objectives of the Study**

This dissertation aims to study the issues of the meaning, conceptualization, and also the predictions in the area of successful aging. Studying Rowe and Kahn's model helped the researcher of this study understand the concept of successful aging, but as stated above it also has its limitations. As the model is too focused on biomedical factors, ignoring the older people's insight, adjustments of the constructs were made in response to criticisms. There are still wide research gaps that remain to be explored and tested regarding new knowledge on the concept of successful aging.

The notions of well-being, and self-actualization then will be incorporated in the study in order to measure successful aging. Moreover, not only the current factors (current health behavior, financial well-being, social engagement), but also the life course factors (personal- achievement profile and resilience) will also be implemented into the model.

The main objective of this study was to test and explore the relationships among the factors in the model that determine the successful aging of people in Thailand. This study attempts to prove how life course factors, current socio-economic factors, and other controlled variables can contribute to successful aging based on continuity theory.

The results from this study will contribute to the existing studies in the area of successful aging, which are still in need of greater input in terms of a holistic view. This study has also incorporated a number of foreigners in the sample of study to represent the real proportion of the population. In addition, the results might also be helpful to older adults and people in society to better understand and prepare themselves for the success in later life. Lastly the findings could be beneficial for

private and governmental organizations regarding the development of knowledge, programs, projects, and policy regarding successful aging.

There are four objectives in this study.

1. To develop a model of successful aging using a holistic view, including both life course factors and current socio-economic factors
2. To apply continuity theory to a successful aging model
3. To understand and study older adults in Thailand. The study uses Thailand as the center of study.
4. To provide ideas for policy, projects, or program recommendations regarding successful aging for governmental or private organizations

1.7 Contributions of the Study

This study is expected to fill some of the theoretical gaps in the study of successful aging and to bring practical knowledge to governmental and other related organizations.

1.7.1 Academic contributions

This research emphasizes how life course factors and current factors enhance successful aging directly and indirectly through health maintenance. It can make a contribution to the existing studies in the area of successful aging. The study investigates the older adults in Thailand in the 6 provinces representing each regions of Thailand, as stated earlier.

The study also provides empirical evidence regarding the effects of life course factors and current factors on successful aging. The researcher developed a conceptual model of the relationships of the life course factors, current factors, health maintenance, and successful aging that had not been proposed before. The major

contribution of this study is a holistic model that links the life course factors, current factors, and health maintenance with successful aging.

Due to the significance of population aging and its global impact, the implications have not yet been fully appreciated. It is necessity to raise awareness not only about population aging or successful aging, but also about the importance of research, which will help people address the challenge and opportunities of an aging world. The present research can empirically test the model concerning whether it can be applied in the context of Thailand or other Asian countries. In Thailand, there are fewer studies on successful aging than in developed countries, where only studies on similar issues such as quality of life are mentioned. There is therefore a research gap regarding this topic. There are also different contexts on the aspect of aging. In modern western society, the understanding and acceptance of aging could be different from that in the Asian countries, and this could contribute to greater understanding of successful aging in the context of Thailand.

1.7.2 Practical contributions

In practical terms, the empirical findings of the present study highlight the significance of life course factors, current factors, and health maintenance influencing successful aging. According to the related literature, the government of Thailand has continuously spent large amounts of money supporting older adults for a long time; however, research regarding successful aging has rarely been conducted. Therefore, this research focuses on successful aging from a holistic view, as indicated, including both life course and current factors. The empirical evidence regarding the effect of life course, current factors, and health maintenance on successful aging from this study will be valuable in providing sensible managerial suggestions for government and related organizations so that they can increase the tendency of successful aging in a dynamic context. The model from the study can supply constructive information for responsible organizations to foster successful aging through appropriate practices and strategies. The information can be used by organizations in Thailand both public and private regarding programs and policies concerning the successful aging. The direction and policies supporting the older population in Asian countries are still

limited, as stated, and the model in the present study could be adapted or extended to suit the policies or programs needed to promote more successful aging in Thailand.

The research can also provide knowledge to readers on the topic of successful aging. It can be helpful for older adults and families to better understand themselves in terms of promoting success in a person's later life, and the study could also represent useful knowledge for people in the society. This research can help not only older adults in how to successfully age, but also the younger generation to prepare itself to age successful—people can understand better what factors are significant in achieving successful aging. Good preparation from one's younger years can contribute to successful aging. Further, good knowledge and advice to individuals and organizations concerning successful aging can help people in the society have a higher chance to age well.

CHAPTER 2

LITERATURE REVIEW

2.1 Aging Population in the Global Context

In chapter 1, the researcher's interest in the topic of successful aging in Thailand was discussed. The details of the aging population in a global context and in certain countries are further discussed below.

According to a report from the U.S. Department of Health and Human Services, people worldwide are aging; not only as individuals, societies, but also as a world. Since 2006, there have been an estimated 500 million people globally 65 years of age (Dobriansky, Suzman, & Hodes, 2017). United Nations also provided details that the number of older adults globally reached 962 million year 2017, which is more than double the number from year 1980, which was 382 million (United Nations, 2017a). From the same source, the number of older adults was expected to be two times as large again by year 2050, approaching almost 2.1 billion. The number of the oldest old who age 80 and above has been growing faster than the overall older person group itself and is projected to be 434 million oldest old by 2050 (United Nations, 2015). This is consistent with the information from U.S. Department of Health and Human Services, indicating that there is progressive aging of the population itself as more older people survive to even more advanced ages causing the rising numbers of the oldest old (Dobriansky et al., 2017).

This is the first time in human history that the number of older people will be greater than children under 5 years of age, with even increasing life expectancy and longevity over time (Dobriansky et al., 2017). This could bring new economic and social challenges and also open a window of opportunity for good transformation to fast paces of change.

Between 2015 and 2030, the number of older persons in Latin America and the Caribbean would be the fastest-growing region with an estimated 71 percent increase; the second ranking growth rate is Asia with a 66 percent increase; the third ranked is Africa with a 64 percent increase; the fourth ranked is Oceania with a 47 percent increase; the fifth rank is northern America with a 41 percent increase; and last is Europe with only a 23 percent increase (United Nations, 2015). More details can be seen in Table 2.1.

Table 2.1 Number and Percentage of Older Persons in 2017 and Prospect in 2050

	Number of older persons in 2017 (millions)	**Percentage of older persons in 2017**	**Prospect number of older persons in 2050 (millions)**	**Prospect Percentage of older persons in 2050**
World	962.3	100	2080.5	100
Africa	68.7	7.1	225.8	10.9
Asia	549.2	57.1	1273.2	61.2
Europe	183.0	19.0	247.2	11.9
Northern America	78.4	8.1	122.8	5.9
Latin America and the Caribbean	76.0	7.9	198.2	9.5
Oceania	6.9	0.7	13.3	0.6

Source: United Nations (2017). World Population Prospects: the 2017 Revision.

Asia is the continent that has the highest percentage of older persons in the present and this will be true as well in the future. According to information from Economic and Social Commission for Asia and the Pacific-United Nations (ESCAP, 2016), the number of older adults in the region was estimated to be 12.4% of the population, but it has been anticipated to reach 1.3 billion people by 2050. There are many parts in Asia, including East and Northeast Asia, North and Central Asia, the Asia Pacific, and South and Southwest Asia, Southeast Asia. Moreover, there are variations of aging population across the regions, for example Japan and the Republic of Korea are significant aging population countries in East Asia (ESCAP, 2017). In Southeast Asia, the overall percentage of the aging population is not high; estimated

at 9.6 percent of the total population; however, there are some significant aging countries that are included such as Thailand (ESCAP, 2014).

In Asia, the aging population process is very fast and dynamic. Compared to other developed countries, the developed countries take a lot more time to move from an aging to an aged society than Asian people.

There have been the calculations by the ESCAP-United Nations based on Kinsella and Gist (Kinsella & Gist, 1995), the UN Census Bureau (2005), and the Vietnam GSO-General Statistics Office of Viet Nam (2010). For example, Thailand will take only an estimated 22 years to move from an aging society to an aged society. This is very fast for having a higher proportion of older people in a short time with limited opportunity to adjust compared to the developed countries, where the people would still have enough time for a transition and still have larger proportion of young people working and contributing to the demographic dividend. More details can be seen in Table 2.2.

Table 2.2 Years and Numbers of Years for Countries Moving from Aging to Aged Society

	Countries	Years moving from aging to aged society	Time taken in years moving from aging to aged society
Developed countries	France	1865 - 1980	115
	Sweden	1890 - 1975	85
	Australia	1938 - 2011	73
	USA	1944 - 2013	69
	Japan	1970 - 1994	24
Developing count	China	2002 - 2027	25
	Sri Lanka	2004 - 2027	23
	Thailand	2002 - 2024	22

Source: ESCAP Calculations Based Upon Kinsella and Gist (1995); UN Census Bureau (2005); and Viet Nam GSO (2010).

Asia is one of the regions that has seen a rapid decline fertility and also a steady increase in the life expectancy due to higher living standards (ESCAP, 2017). This is consistent with information from Kinsella and Gist (Kinsella & Gist, 1995) and also the United States Census Bureau (United States Census Bureau, 2010). Moreover, some nations have experienced more than double the average life expectancy in this century. For example, the highest life expectancy at birth in developed countries is in Japan, which is now approaching 82 years, followed by several other developed countries with the life expectancy at 79 years (Dobriansky et al., 2017).

Even though the aging population represents one of the human achievements, it is also an important challenge as longer lives require more elaborate life planning. Global aging can possibly would affect economic growth, the sustainability of families, and also the capability of states to support the older citizens (Dobriansky et al., 2017).

2.2 **Aging Population in Thailand**

The concept of successful aging in developed countries is a common concept studied by numerous research institutions and organizations. This means that they should have enough resources and time to deal with problems related to aging society.

In Thailand, the concept of aging is commonly known for the national policies and programs for the Thai aging population such as developing legislation and designing national aging plans (Jitapunkul & Wivatvanit, 2008). The term is presented generally in the news and activities by the government and participating sectors. Despite this, it is not clear how the concept of successful aging is understood and implemented at the personal and household level. The research in Thailand mostly involves the quality of life and life happiness. For example, Siriwanarangsun, Kongsuk, Arunpongpaisan, Kittirattanapaiboon, and Charatsingha (2004) studied the quality of life and depression of the elderly in Thailand, and Nanthamongkolchai et al. (2009) studied the factors influencing life happiness of aging women in Rayong

province. The factors focus on self-esteem, life happiness, family relationships and participation in society. Moreover; Nanthamongkolchai, Tuntichaivanit, Munsawaengsub, and Charupoonphol (2011), the same author mentioned, also studied successful aging in 2011; however, the focus was only on Rayong province.

Regarding the concept of aging in Thailand, this issue should gain more interest. With the age distribution we are approaching, Thailand falls into the category facing the aging population problem. The ratio of elderly people in the country has become higher. Regarding this issue, the Thai government has played active roles in increasing the national awareness of the aging population and developing national plans, including policies and programs to serve the future aging population (Jitapunkul & Wivatvanit, 2008). Examples include establishing the National Elderly Council in 1982, which began to plan and address the issues impacting the older population, and establishing the National Committee of Senior Citizens in 2002.

Even though the Thai government already has begun planning for and moving towards the reality of an aging society, the commitment from all participating sectors, including the individuals, and private and public organizations, are still scarce. There is limited time and resources for the preparation as Thailand is changing to aged society very quickly compared to other Asian countries. Giving some financial aid or gifts to the elderly people can help with this problem, but the active support from the majority of people is still needed.

Thailand is an excellent country to be a center for researching the aging population. It is a good representation for the aging society in Asia. Secondly, the aging population is a global-scale problem. The focus should not be only on the Thai people, but rather on any elderly from various countries that retire in Thailand. Thailand is a country that is one of the main targets for retirement. The Tokyo Long Stay foundation (2005) listed Thailand as one of the most popular destinations for long-stay tourism including Australia, Malaysia, Hawaii, Canada, and Thailand. Many international senior citizens flow to Thailand for reasons of medical services or the low cost of living, which can offer them financial security in the later stages of life.

This has increased the number of foreigners in Thailand that have chosen to settle down here after retirement.

Thailand is fortunate that it has extensive sources of information regarding the socio-demographic and economic profiles of the elderly, such as the National Statistical Office. For example, evidence shows that the numbers of Thai people that are aged more than 60 years are increasing rapidly compared with number of children and people at the working age. Further, higher numbers of people are entering and are expected to enter this aging group.

Table 2.3 Demographic Structure in Thailand by Age Group, 2010- 2040

Year	**Population**				**Proportion (%)**			
	Total	0-14 years old	15-59 years old	60+ years old	Total	0-14 years	15-59 years	60+
2010	63,790,000	12,642,000	42,740,000	8,408,000	100%	19.8%	67.0%	13.2%
2020	65,996,000	11,081,000	42,293,000	12,622,000	100%	16.8%	64.1%	19.1%
2030	66,174,000	9,800,000	38,795,000	17,579,000	100%	14.8%	58.6%	26.6%
2040	63,864,000	8,170,000	35,175,000	20,519,000	100%	12.8%	55.1%	32.1%

Source: NESDB (2013), Projection for the Population of Thailand during 2010-2040 at National Level

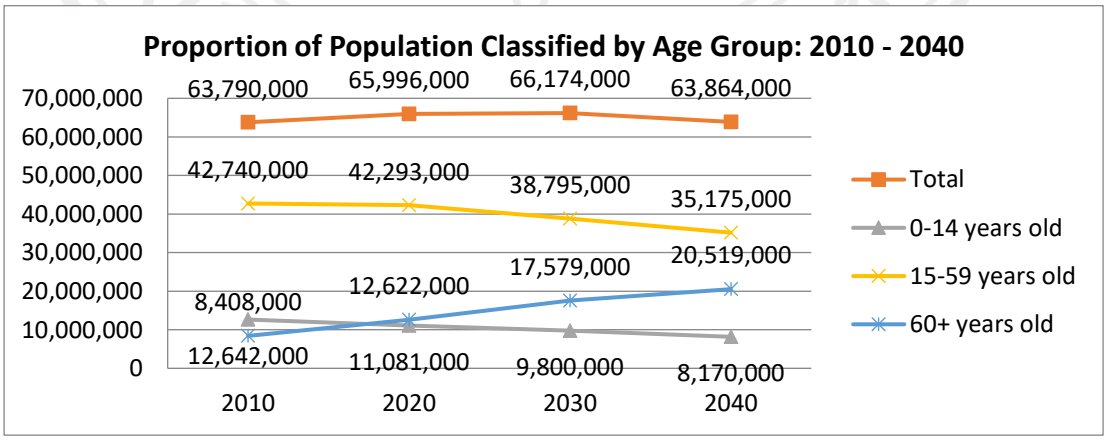

Figure 2.1 Proportion of Population Classified by Age Group: 0-14, 15-59 and Over 60 Years per Population 2010-2040

Source: NESDB (2013), Projection for the Population of Thailand during 2010-2040 at National Level

According to Figure 2.1 and Table 2.3, the data from the Office of the National Economic and Social Development Board, show the population projection in a similar rapidly-increasing trend. This has raised the national-level interest in how to age healthily and successfully.

For Thailand, not are only the rates and dynamics of changes in demographics are high, there is also other important information regarding the aging population. Thailand had a GDP per capita at 5,977 dollars in 2014 (ESCAP, 2017) and the GDP per capita is an important number as a country should not become old before becoming rich.

Table 2.4 Life Expectancy, Average Age in Marriage and Years of Disability After 60 in Thailand

	Life Expectancy		**Singulate Mean Age at Marriage**		**Average No. of years a woman lives a lone**	**Years of disability after 60**
	Men	Women	Men	Women	No. of years	No. of years
Thailand	71.1	77.8	27.4	24.1	10	4.7

Source: ESCAP (2017), Ageing in Asia and the Pacific Overview

According to table 2.4, even if the life expectancy has increased from the past, showing that people are living longer lives, there are still years that people need to live with disability in their later years in life. For example, in Thailand older adults need to live with disease or disability for 4.7 years after reaching old age, which is quite a long time in a life span (ESCAP, 2017). The major causes of death and disability are not infectious disease but non-communicable diseases or chronic diseases (World Health Organization). For Thai women, even though they have

longer life expectancy at 77.8 years, they need to spend an average of more than 10 years of living after the death of their husbands (ESCAP, 2017). This is consistent with information from United Nations Population Fund Thailand and the Office of the National Economic and Social Development Board. Thai people are living longer, especially the women. In 1964, Thai women's life expectancy at birth was 62 and is now at 78 and is expected to be 82 years by 2040 (Caspar Peek, 2015). From the same source, Thai men's life expectancy at birth has also increased from 56 years in 1964 to 72 years at present, and is expected to be 75 years by 2040(Caspar Peek, 2015).

Moreover, the government's expenses regarding older adults will continue to increase. According to a study in 2012 conducted by Thailand Development Research Institute and the Office of Welfare and Child Protection, Youth and the Elderly (Thailand Development Research Institute, 2012), the government expenses for the older population will rise to almost 470,000 million baht in the near future. More details are shown in Table 2.5.

Table 2.5 National Income, Government Revenue and Welfare for the Older Persons' Expenses

Year	**National Income (NI) (million baht)**	**Government Revenue**		**Welfare for the older persons Expenses**		
		(in million baht)	(in percentage of NI)	(in million baht)	(in percentage of NI)	(in percentage of government revenue
2017	15,964,688	3,700,968	23.2%	314,661	1.97%	8.50%
2018	17,082,216	3,996,009	23.4%	352,450	2.06%	8.82%
2019	18,277,971	4,312,720	23.6%	389,565	2.13%	9.03%
2020	19,557,429	4,653,521	23.8%	427,570	2.19%	9.19%
2021	20,926,449	5,016,065	24.0%	464,009	2.22%	9.25%

Source: TDRI (2012), Budget Estimation and the Sources of Money for the Elderly

There are various types of welfare for older persons, including social security expenses, government pension funds, allowances for the elderly, national savings funds and other types of welfare regarding the elderly. However, the top-highest expenses include allowances for the elderly, government pension funds (under the old system and the Civil Servant's Pension and Retirement Benefit Fund) and the Social Security Fund (old age cases and death cases) (Thailand Development Research Institute, 2012). More details are shown in Table 2.6.

Table 2.6 National Income, Government Revenue and Welfare for the Older Persons' Expenses

Year	**Total expense**	**Allowance for the elderly**		**Government pension fund**		**Social security fund**	
	(in million baht)	(in million baht)	(in percentage of total expense)	Under the old system	(Civil Servant's Pension and Retirement Benefit Fund	(old age case)	(death case)
2017	314,661	100,951	32%	72,072	43,910	43,462	1,444
2018	352,450	108,258	30.7%	79,811	49,196	54,794	1,493
2019	389,565	116,208	29.8%	88,080	51,836	66,908	1,545
2020	427,570	124,793	29.2%	97,437	52,712	79,940	1,598
2021	464,009	133,262	28.7%	107,285	50,586	93,854	1,652

Source: TDRI (2012), Budget Estimation and the Sources of Money for the Elderly

The fast and dynamic pace of developing countries nowadays is significantly more serious than what has happened in developed countries. Today's developing countries, with lower national incomes and also less experience, need to change and be prepared more quickly for the aging population problem.

2.3 Older Adults: What Defines 'being old'?

In order to conduct a study on successful aging, one of the first questions is what defines "being old". This group of people is stereotyped as "no-longer-young", "middle-aged", or "older adults". The word "old" is an adjective and it is quite subjective since some people look young, and some people look old. Some gerontologists refer to old people negatively in terms of the stereotypes of social disconnection, fragility, and dependence on others (Kinsella & Phillips, 2005). Gorman (1999) defines old age as the period when a person could not possibly make an active contribution. The concept of being "old" generally relates to the decline physically and psychologically.

Chronological age (CA) is the length of one's life since birth measured in numbers, and is generally used in research since it is basic variable (Uotinen, Rantanen, & Suutama, 2005). In order to reach the sample of this study, the chronological age of 60 years old was used since it is the more general measurement of age for cross-national comparisons. The chronological age of 60 or 65 years old and above is generally used to define someone old. Many studies also use the government's retirement age to define older adults (Anthony, 2010; Roebuck, 1979). The terms "older adult", "older person", "elderly person", "elderly people", "older people", "older population" refer to a person or persons aged 60 years old or older. The "very old person", "very old adult", "very old people", "very old population", and the "oldest old" refer to a person or persons that are aged 80 years or older.

The Ministry of Social and Development and Human Security in Thailand also explains an older person as someone aged 60 or over. This is the age after one retires and begins receiving a pension or other form of benefits from the government. A survey of older persons in Thailand also defines older persons as someone aged more than 60 years. Specifically, there are three groups: the early group is someone aged 60-69 years, middle group is someone aged 70-79 years, and late group is someone aged 80 years and above (National Statistical Office of Thailand, 2014). The United Nations ESCAP- Economic and Social Commission for Asia and the Pacific

(2017); also classified the old group into three categories, as “young-old”, “older-old”, and the “oldest-old”.

For most foreigners, older adults can migrate to Thailand following “retirement visa” requirements as a foreigner aged 50 years or above. This type of visa allows a person the right to stay for 1 year in Thailand, which can be renewed meeting other visa requirements.

Some researchers have considered old age identity or subjective age in their studies as they believed that some people might not feel that they are as old as they are chronologically. Baum and Boxley (1983) challenged the early belief, arguing that people with the same chronological age might feel in a different way. They also argued that people will act and look based on their psychological age or subjective age rather than their actual age (Baum & Boxley, 1983). However, age identities vary personally and also culturally giving little conformity to who should be considered aged and treating them as aged. This means that people are unwilling to be labeled as old (Gatz & Cotton, 1994). Studies by Blau (1956), and by Bultena and Powers (1978) showed that people tend not to define themselves as old for several years after other people count them as older adults. According to the study by Barnhart and Penaloza (2012), the participants that were aged 65 years old and over were in the group most likely to accept that they were aged. Referring to many scholars, subjective age is a good predictor of physical and psychological functioning for older adults (Montepare, 2009; Uotinen et al., 2005). Stephan, Chalabaev, Kotter-Gruhn, and Jaconelli (2012) similarly explained that younger subjective age is a predictor of better well-being, health, and also a lower risk of death. This is consistent with a study by Uotinen, Suutama, and Ruoppila Uotinen, Suutama, and Ruoppila (2003), where it was indicated that subjective age or psychological age is one of the significant predictors of successful aging.

Even though subjective age is considered a good predictor of successful aging, it varies personally and culturally, providing little conformity. During the pilot study, the researcher found that most Thai older adults reported their subjective age less than their actual age, whereas most non-Thais reported their subjective age as

quite close to their actual age, and many refused to answer this question as they see more importance in actual chronological age. In this study, the researcher of this study used chronological age following Thailand's definition of being old. Thais and foreigners that were above 60 years old residing in Thailand were the targeted respondents in this research. The three groups of older adults included: the early group, someone aged 60-69 years; the middle group, someone aged 70-79 years; and the late group, someone aged 80 years and above (National Statistical Office of Thailand, 2014).

2.4 History of Successful Aging

In the past, people have tried to find ways to extend their lives. There are many reasons that make some people live a longer or shorter life. The reasons could be genetics, behavior, the environment, or other individual reasons. In the past, the empirical research was focused the negative aspects of aging such as death, disease, and functional decline and disability (Strawbridge, Cohen, Shema, & Kaplan, 1996). The research findings were focused on the loss and decline as age advances (Riley, Kahn, Foner, & Mack, 1994). According to Baltes and Carstensen (1996), the anxiety and fear of old age is unquestionable by both the individual and also on the part of society, such as the fear of loss, and the fear of increased costs and burdens.

Many gerontologists have tried to study and understand the process of aging. Successful aging in the past was dependent on the healthcare service's ability to treat the disease and repair the body's functioning. Therefore, most people still thought of aging in a negative way, and the solution to deal with aging was to accept and adjust to the declines. The idea of people positively enjoying old age was not common, and the idea was denying the reality of aging (Cole, 1983). There was no causal evidence showing the positive effects of aging at that time. Morbidity and mortality rates do rise with age (Brody, Brock, & Williams, 1987; Manton & Soldo, 1985).

According to Martin, Kelly, Kahana, Kahana, Wilcox, Wilcox, and Poon (2014); the term successful aging came into view in the 1960s. Havighurst (1963)

defined it as the maximized life satisfaction and happiness of both the individual and society. Therefore, the term successful aging could be used as an end goal for gerontology (Havighurst, 1963). Successful aging gained some attentions during that time and surrounded by the ideas of life satisfactions. On the other side of decline and loss, aging could also involves positive sides such as growth, vitality, striving, and also contentment (Baltes & Carstensen, 1996). More than twenty years later, the concept of successful aging was rebuilt by Rowe and Kahn, which was different from other work in this area before. The study developed the theoretical frameworks using the Macarthur Foundation's Research Network of Successful Aging, which was founded to study gerontology and conducting research on over a thousand adults (Bülow & Söderqvist, 2014). The focus was on older adults that had good physical health.

The trend in healthy aging called for more research and studies which focus on healthy older adults. The widely-accepted model of successful aging developed by Rowe and Kahn (1997; Rowe & Kahn, 1998) defined successful aging according to three main factors: absence of disease, a high degree of physical and cognitive function, and active social engagement. There is hope for older adults to be in the group of successful agers. Many studies were conducted later to reassess what and how to age successfully, and various aspects have been explored: physical variables, psychological variables and also psychosocial variables. In addition to academic, population also has a better understanding of a better quality of life in later stages.

Rowe and Kahn's model of successful aging (1997; Rowe & Kahn, 1998) was the first model that challenge the negative image of old age, and after medical advances, western society has reached the point where the majority of people can live out their lives in acceptably good physical health (Manton, Corder, & Stallard, 1993). This was due to the reduction of infant mortality and the control of disease (Fries, 1990).

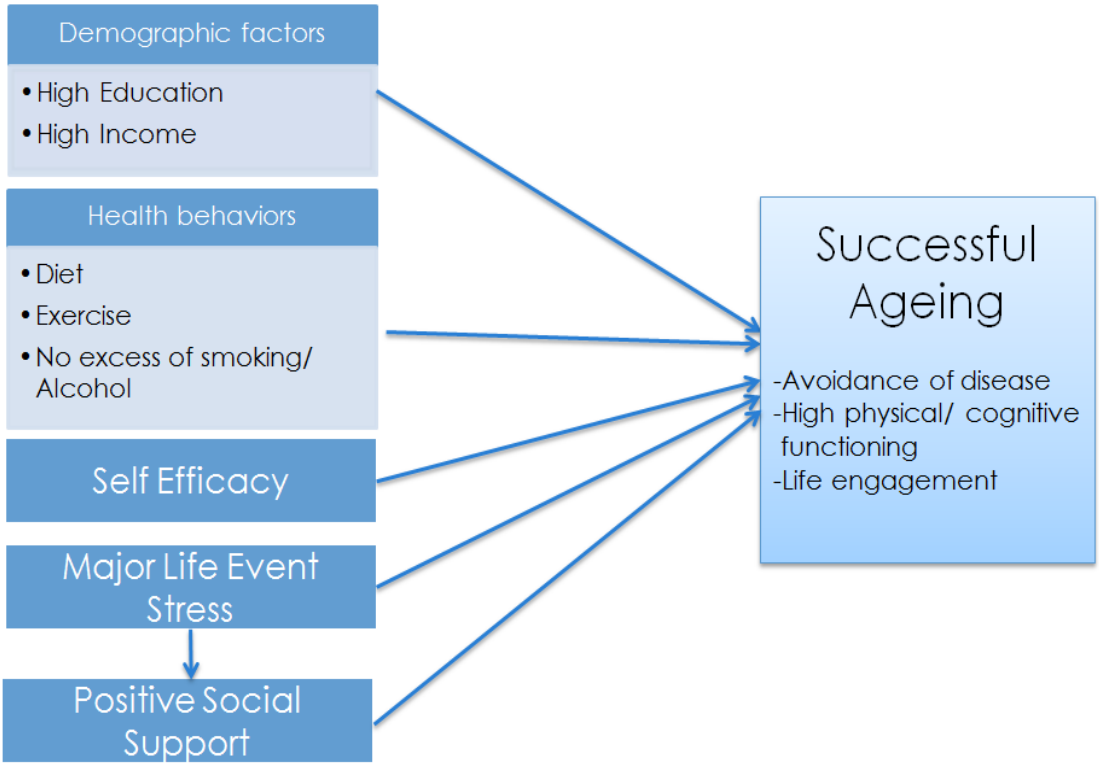

Figure 2.2 Rowe and Kahn's Model

Baltes and Baltes (1990) claimed that Rowe and Kahn's idea of current health state may be too idealistic, as physical decline is inevitable no matter how well the individual responds. Successful aging should be more of effective engagement or the ongoing process of adaptation to one's situation.

Myers (2000) has studied the factors that contribute to successful functioning in older individuals. There are projects that have studied people from various countries in order to find out how to achieve healthy aging. The MacArthur Foundation Research Network on Successful Aging has been particularly responsible for this research focus, studying older persons that are suffering with chronic diseases, disabilities and other deficits. There were many interesting findings concerning longevity. Most people believe that the longer a person lives, the more successful he or she is in terms of aging. However, longevity is only one aspect of aging

successfully; there are also other factors, such as life quality or well-being or the relationships of the person has as he or she ages.

According to Bowling (2005), a large number of older adults choose to remain energetic and also self-determining. With the trend of healthy life expectancy in older age, this has increased the interest in promoting successful aging (Fries, 1990; Gingold, 1999). As a result, the definitions of old age are changing and older people are not all the same (Bowling, See-Tai, Ebrahim, Gabriel, & Solanki, 2005). Researchers and medical doctors have discussed the notion that successful aging cannot be lost from the multifaceted conception of old age (Bortz, 1989). Moreover, there are many older people that are more contented with their lives than younger people (Herzog & Rodgers, 1981).

The classic model of successful aging cannot work for today's society any longer and needs to be re-considered. Approaching the generation with a high proportion of older adults, people aim more at spending their latter life stage, which could last for more than two or three decades, in more meaningful ways. Senior citizens are aiming for healthier, happier, and well-lived lives more than ever before.

2.5 **The Concept of Successful Aging**

Success is one of the important things that people desire in life. The definitions of success are different during the course of history pointing toward outcomes with some involvement of effort and luck (Dictionary, 1989). In modern times, success has referred to positive achievements deriving mainly from one's own actions and behaviors (Baltes & Carstensen, 1996).

There are many facets of success in society, including successful aging. According to Baltes and Silverberg (1994), the concept of successful aging can include any attainment of personal goals of all types such as maintaining good health and functioning, self-actualization, and social engagement. In modern years when youth is valued, successful aging was sometimes misunderstood as finding the

fountain of youth. Scholars such as Erikson (1956) and Butler (1974) explained that looking back on the past and seeking the fountain of youth will just lead to misery and loss.

As mentioned by Bowling (2005), some older adults choose to remain active and also independent. With the trend on healthy life expectancy in older age, this has increased the interest in promoting successful aging (Fries, 1990; Gingold, 1999). There are overlaps of the definitions and concepts of successful aging and other terms. According to Vaillant (1993), successful aging shares a similar meaning with healthy aging. Bowling (1993) also argues that it overlaps with the notion of positive aging. Other terms such as productive aging, active aging, and aging well have also been mentioned. In this study, only the term "successful aging" will be used in order to avoid confusion.

The concept of successful aging has been discussed among researchers in various fields. In the medical and biomedical fields, the doctors and researchers have tried to define and study how to age successfully. Havighurst (1963) defines "successful aging" as how a person can add life to his or her years; this means that the older person is achieving life satisfaction. Rowe and Kahn (1997, p. 433) defined "successful aging as including three main components: low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life." Even though living a disease-free life in later life could be an idealistic concept, Rowe and Kahn's (1997) is the most accepted definition since it brings a new belief that older populations in this and the next generations can live better lives. Since 1997 and 1998, Rowe and Kahn's paper has received continual attention in gerontology- theories, research, and also in practice. Despite the fact that usual aging is the normal decline in physical, cognitive, and social functions when people get older, successful aging, in another way, is the attempt to try to minimize those declines.

Even though Rowe and Kahn's model is widely used, there have also been criticisms of the model as it is mainly focused on a disease-free older age, which maybe too unrealistic. The majority of the population cannot avoid facing some

difficulties in their later lives. Other biomedical theories define successful aging as the optimisation of life expectancy together with the minization of physical and mental decline (Bowling & Dieppe, 2005). At any rate, the concept of successful aging is changing our beliefs about the older population.

According to the Encyclopedia of Aging, successful aging is defined as survival or longevity, health or lack of disability, and life satisfaction or happiness (Palmore, 1995). The World Health Organizations also defines health as "arriving at a level of physical, social, and psychological well-being in old age" (Levkoff, Chee, & Noguchi, 2001). Successful Aging 2.0: Conceptual Expansions for the 21st Century in 2015 was proposed by Rowe and Kahn to update the model. Three main goals for scholars were projected: re-engineering core societal institutions, adopting a life course perspective, and focusing on human capital. The social and behavioral aspects will be focused on as important factors determining successful aging.

A greater number of older adults in this and the next generations are expecting healthier circumstances in the physical, cognitive, psychological and social aspects of their lives in order to live better in their later years. One of the aspects that contribute to successful aging is psychological well-being. There are many psychological factors that can positively define successful aging, such as a sense of autonomy, adaptability to changes, self-esteem, positive outlook, life purpose, etc. However, the most general investigated psychological definition of successful aging is life satisfaction with one's past and present life (Havighurst, 1963). In other words, older people that have aged successfully are satisfied with their current situations and the lives that they have lived. For instance, they are content with their present conditions and environment. If they had a chance to live a life over, they would change almost nothing. It is not only about showing happiness, but rather the inner satisfaction and attitudes toward self and life.

Sociological and psychological approaches look at successful aging in a more meaningful way. Here it is not about searching for the fountain of youth, but searching for the conceptions of well-being and also continued growth, even in old age. Successful aging is viewed as a dynamic process and as the outcome of one's

development over the life course (Ryff, 1989). Here the focus is not only on maintaining physical functions but also on life satisfaction, social participation, and personal growth. According to Cole (1985), successful aging is not just about attaining something, but successful aging is interconnected with a sense of meaning and life purpose reaching ideals. Ryff (1982) also explained successful aging as a positive functioning related to the developmental approach over one's lifetime. Older persons still grow and learn using their past experiences to deal with present situations. Facing many physiological and psychological changes, it could be difficult for most older people to live healthily and happily.

Especially in developed countries, which are familiar with the aging population problem, there are a large amount of articles that discuss the successful aging concept. In addition, many researches and studies have extended from Rowe and Kahn's model of successful aging. There was a shift of the focus from the medical services' perspectives to individuals' perception of their aging experiences. Depp and Jeste (2006) reviewed 28 academic researches on the topic of successful aging with different definitions and aspects and the most similar aspects included being of a younger age, not having diabetes or joint pain, exercise, and good social participation. The study showed an average 35.5% of successful aging based on the factors of successful aging.

For westerners, the concept of successful aging or healthy aging is much more studied and supported by academic research in various aspects such as in the medical, sociological and psychological fields. Responding to the demographic trends and policy forces, the older people's quality of life has been theorized using the terms "successful aging", "active aging", "productive aging", "healthy aging" and "positive aging" (Bowling, 1993). Healthy aging is explained as a lifelong process that enhances opportunities for maintaining health, physical, social, and mental wellness, independence, quality of life, and successful life-course transitions. For example, Peel, Bartlett, and McClure (2004), researchers from Australia, studied and defined the term "healthy aging". In 2005, they also studied the behavioral determinants of healthy aging.

To conclude, there are various definitions, concepts and measurements regarding successful aging. This is consistent with the explanations from Pruchno, Wilson-Genderson, and Cartwright (2010), that the meaning of successful aging varies. For the moment with numerous papers on successful aging, there is still no clear consensus on this topic. According to Cosco, Prina, Perales, Stephan, and Brayne (2014), the majority of the concepts of successful aging are still based on biomedical approaches. As mentioned many times, the most widely used model on successful aging is that of Rowe and Kahn(1997). With the critics of the model, the life course approach is considered to improve the model, viewing aging as a process including historical time, context, and other developments in the model (Stowe & Cooney, 2014).

The researcher of this present study decided not to count on one specific model but to use a more holistic conceptual view that includes both life course factors and current factors in order to understand successful aging.

2.6 **Theories Related to Successful Aging: the Continuity Theory**

A theory is a formal and logical explanation of how concepts are related (Zikmund, Babin, Carr, & Griffin, 2013). It is important to use theory to support a study as it can explain why some occurrence happens in a certain way. Theory can explain the relationships among concepts and can also be used for prediction.

There are three main psychosocial theories related to successful aging and social functioning. They describe how people develop in old age. They include disengagement theory, activity theory and continuity theory (Bearon, 1996; Havighurst, Neugarten, & Tobin, 1968). The main theory which is used in this study is continuity theory.

The first theory regarding successful aging is disengagement theory. Disengagement theory explains that it is normal and acceptable that older adults will withdraw from society (Cumming & Henry, 1961). Mishra (2012) similarly clarified

that as a person grows old, he or she will pull himself out from social interaction in stages. According to Cumming and Henry (1961), the process of disengagement begins with the older persons' expectation of death, and one's abilities will probably decline overtime causing them to lose bonds with others in the society. Disengagement theory is the first theory about aging in social science (Achenbaum, 1995). However, this theory still has many critics as it might ignore understanding the complex social lives of the elderly after retirement (Cornwell, Laumann, & Schumm, 2008).

The second theory is known as activity theory. This can be called the normal theory of aging, the implicit theory of aging, and the lay theory of aging (Loue, 2008). The theory was developed by Havighurst in 1961 and proposed that successful aging occurs when older adults stay socially active. The aging process will be delayed and the quality of life is improved, when older adults remain in social interactions such as in personal relationships and activities (Schulz, 2006a). This theory assumes a positive relationship of activity and life satisfaction (Loue, 2008). According to Lemon, Bengtson, and Peterson (1972), older persons will find substitute statuses and roles for their relinquished ones, and they age most successfully when they keep themselves busy with fully-rounded daily activities. This theory makes sense, especially for older adults that are active and have been engaging in the social activities since their earlier years of their lives. The have also been critics of this theory, since this model mainly focuses on being socially active but ignores health, individual desires, and also the economic aspects of aging. Some scholars have claimed that not all older adults will have the desire to engage in social activities (Bengtson, Gans, Putney, & Silverstein, 2009).

The third and main theory of this present study is continuity theory. Continuity theory explains that older adults will usually maintain the same activities, behaviors, and relationships as they did when they were younger (Atchley, 2011). This theory clarifies that older adults will continue their lifestyles that are related to their past experiences using adaptive strategies (Atchley, 1971). Atchley (1989) proposed the continuity theory in 1989 and this theory is used as the main theory in this study on how older adults deal with the changes they face when aging.

Continuity theory is widely accepted from the logic that personality traits are relatively consistent. According to Costa and McCrae (1994), one's personality becomes fixed and remains unchanged after reaching young adulthood. This is consistent with the explanation by Markson (2003), that a person's personality remains comparatively continual throughout aging and one's life course. Nimrod and Kleiber (2007) also explained this in a similar way that people are motivated to continue the typical patterns of their activities. Roberts and Caspi (2003) explained further that one's personality continues and develops with people's age over the life courses. Most literatures, as indicated above, explained in the similar way about the consistency of one's personality traits. Even though it is possible that one's personality can change; it is more of development rather than a complete or drastic change.

Other compelling researches by showed that one of the most reflective factors of personality consistency is age (Caspi & Roberts, 2001; Roberts, Helson, & Klohnen, 2002). From a review of 152 longitudinal studies, Roberts and DelVecchio (2000) showed that the unadjusted estimates of personality consistency escalated from 0.31 in childhood to 0.54 during the college-age period, to 0.64 at age 30, and then reached a high level near of 0.74 between ages 50 and 70). This evidence shows that personality remains quite consistent after young adulthood and even increases in later years of life. This is similar to the concept of "ageless self" introduced by Kaufman (1994), where people continue being themselves even when they get older.

According to Gee (1999), older employees approaching retirement generally view and expect this later time of life to be a new beginning. It is quite a surprise that there is rarely a radical change in the pattern of free time usage since most retirees tend to continue taking part in the same activities they enjoyed in the past (Nimrod & Kleiber, 2007). Larger numbers of older adults can continue their activities and relationships even if their physical, mental and social status might have changed from aging (Schulz, 2006b). This is consistent with the ideas of Iso-Ahola, Jackson, and Dunn (1994), that retirees participate more in the same activities, not in different activities. Atchley (1989) explained the continuity theory, suggesting that people that grow older successfully can carry their values, lifestyles and relationships from

middle to later life. It is not just about the volume of activities, but rather how older people adapt the challenges of aging and redistribute the activities. This is consistent with Nimrod and Kleiber's study (2007), which indicated that that a person will tend to maintain his or her roles and the continuity of the psychological and social patterns implemented before in their life courses, even when faced with obstacles, by developing current activity patterns. Rowe and Kahn also include life engagement in their biomedical definition of successful aging (Rowe & Kahn, 1987; Rowe & Kahn, 1997; Rowe & Kahn, 1998).

The continuity theory is different from the activity theory that it does not focus on the amount or involvement of social activity as the main concern but rather on the older people's function and behaviors (Nimrod & Kleiber, 2007). Coleman, Ivani-Chalian, and Robinson (1993) have introduced a similar concept of 'inner self' which associates the notion of continuity with self-esteem. Ryff (1982, 1989) has introduced an integrative model on successful aging amd proposed assessing multiple aspects of lives, including positive functioning, such as self-acceptance, positive relations, autonomy, environmental mastery, purpose in life, and personal growth.

Moreover, Atchley (1999) also explained that continuity will exist in chorus with changes. For example, when people get older, their health will steadily decline. Scholars have explained that older adults might change their activities using less bodily effort or more indoor activities (Gordon, 1976; Gordon, Gaitz, & Scott, 1976). Additionally, the changes could be different according to many subgroups depending on socio-demographic factors and health statuses (Horgas, Wilms, & Baltes, 1998; Strain, Grabusic, Searle, & Dunn, 2002).

Therefore, this study will use continuity theory as the main theory backing up the idea that from what the older adults have attained in their life course, they will find ways to continue the behaviors that can lead to successful aging. Even when faced with health decline, they will develop activity patterns that can help them maintain or regain their health, leading to successful aging.

2.7 Theory of Authentic Happiness and the PERMA Model of Well-being

The concept of life satisfaction or happiness is generally used to measure the success of aging. The happier or the more satisfied with life a person is indicates successful aging. The theory of authentic happiness and the PERMA model of well-being (positive emotion, engagement, relationships, meaning and accomplishment) are used to support the present study as it can help with the understanding of how people age healthily, happily, and successfully.

Human beings seek happiness. The conventional concept of happiness is quite vague, as it is usually explains how a person feels, such as contentment or satisfaction or having euphoric feeling, and it also lies in a one's personal concept (Suikkanen, 2011). Living a good life with happiness is the basis of philosophy, religion, scholarly debates. Suikkanen (2011) explained correspondingly that it is not only about having many joyful experiences, as life also contains miserable moments; but it also means thinking back on the periods in life as happy ones, achieving the goals a person has set. People naturally seek ways to be happier. Older adults could possibly be unhappy for the reason that dealing with physical and mental declines is uneasy. The researcher of this present study believes that understanding theory about happiness can help reduce the negative effects of aging.

As mentioned that happiness is not only feeling happy but rather about a person's own concept of how his or her life is going., it is assumed that persons have different sets of goals in their life or ideal life plans that they want to achieve. Maslow's hierarchy of needs also mentioned higher order needs-the persons that are capable of self-actualizing will have achieved their potential as persons. Maslow (1962) believed that this experience will make a person understand the world as it is, with the feelings of joy and wonder.

There are theories that discuss different beliefs of happiness. Starting with the simple concept of hedonism, happiness means maximized feelings of pleasure and minimized feelings of pain. For example, a person that smiles a lot means that the person is happy. Griffin (1986) also discussed a similar concept introducing the

“desire theory”. Desire theory explains that happiness is a matter of getting what a person wants. Fulfillment of a desire contributes to a person's happiness. For a more complex concept of happiness, the objective list theory was introduced (Nussbaum, 1992; Sen, 1985). This theory focuses more on what could be truly valuable that is worth pursuing, such as accomplishments, friendship, beauty, love, and knowledge. In 2002, Seligman proposed the authentic happiness theory which clearly explains three distinctive types of happiness. This study will use the authentic happiness theory and model of well-being as support for the discussion.

According to certain scholars in the field, psychology’s traditional negative viewpoint is a biased belief that ignores positive aspects of human functioning (Seligman & Csikszentmihalyi, 2000; Sheldon & King, 2001). Positive psychology is one of the current fields in psychology. When talking about psychology, many people might think about negative psychology, such as mental illnesses. In 2000, Myers discussed psychology as a healing profession that focuses on relieving mental illness. Depressions, anxiety, bipolar and other psychological disorders are generally mentioned in treatments and research (Myers, 2000). It was believed that happiness is limited by the complexity of genetics or adaptation. However, some scholars have begun to investigate positive emotions rather than the sufferings and this has challenged previous beliefs making the study of happiness a worthy pursuit.

Martin Seligman proposed a positive psychology in 2002. It is one of the most modern approaches in psychology, focusing on human strengths and virtues. Rather than focusing on negative traits, positive psychology focuses more on the good side of human beings. Seligman’s belief is that efforts should not be overly made in correcting weaknesses, but human beings can develop levels of happiness by nurturing existing strengths or inherent traits. According to this theory, authentic happiness comes from identifying one’s most fundamental strengths such as optimism, kindness, originality, humor and using them every day in work, love, play, and in one’s family (Seligman, 2004a).

The theory of authentic happiness has three different aspects: positive emotion, engagement, and meaning. The first aspect is positive emotion, focusing on

the person's good feelings such as passion, pleasure, comfort, warmth, etc. An example is when a person goes for a massage because it makes him or her feel good. The second aspect is engagement. The aim here is for an engaged life when a person flows with the activity. Csikszentmihalyi (1975) has mentioned the concept of flow describing who has flow and who does not. Also, Maslow has mentioned a similar concept of peak experiences. Examples are when someone is lost in the world of music or other activities. However, the pursuit of pleasure or engagement could be egocentric. The third aspect of happiness is meaning. This could be linked to the meaning and purpose in life. The meaning of a human's life could be belonging to or serving something beyond self. This is a reason why humanity creates religion, family, and other types of organizations. Seligman (2004a) concludes that if one uses one's signature strengths to benefit humankind focusing outside one's self, one will transcend to higher levels of authentic happiness.

Authentic happiness theory allows a person to live a full life when all three types of happiness are satisfied. Seligman (2004b) also discussed this as a pleasant life, a good life and a meaningful life. This theory was selected to support successful aging because it focuses on one's strengths and life's meaning. Seligman (2004b) stated that most people want to build their strengths not only minimizing weaknesses, and want a life with meaning. Many times, older adults are viewed as full of weaknesses or "over the hill." Rather than focusing on how old the person is, other positive traits should deserve more attention. This also goes along Seligman's belief that most people want to build their strengths and virtues, not only minimize the weaknesses. Additionally, it is quite negative to judge that someone is past his or her prime or too old to do something. All lives need purpose and people should be able to continue their purpose even into later stages of life. Human beings want to live with meaning, the attachment to something larger, no matter what age they are at.

Besides happiness and life satisfaction, the health-related concept of "well-being" has also been widely discussed regarding successful aging. Authentic happiness is closely related to the concept of well-being. Good physical well-being and happiness are related. The PERMA model of well-being was proposed by the same researcher that proposed authentic happiness. Happiness can make individuals

use their strengths to overcome life's challenges, which are beneficial to one's health and well-being (Norrish & Vella-Brodrick, 2008). Many psychologists have supported the belief that health and happiness are positively related (King & Pennebaker, 1998; Seligman & Csikszentmihalyi, 2000).

As the field of positive psychology has grown, Seligman (2012) also explain 5 core elements of well-being: PERMA (positive emotion, engagement, relationships, meaning and accomplishment). Seligman believes that these five elements can bring fulfillment, happiness and meaning to people. It has been shown that well-being is associated with life satisfaction, and that happiness affects positively on health, success, and other life outcomes (Diener & Chan, 2011). This model can be applied to develop other programs to help people. Positive emotions such as feeling calm, relaxed, joyful, excited, are important for the well-being of humans. In life, there are both positive and negative emotions. Keeping optimistic means the ability to focus on the positive sides of life. Being optimistic means viewing the past, present, and future in a positive perspective. It includes both pleasure and enjoyment. Fredrickson, Mancuso, Branigan, and Tugade (2000) found that positive emotions may have positive health effects that partially reverse the negative cardiovascular effects of anxiety.

Engagement means interest in an activity or in the world. A human being needs some activity in his or her life that will absorb him or her into the present moment. A complete level of engagement is defined as a state of "flow"-the flow state is a single-minded immersion, concentrating on an intrinsically-motivating task (Csikszentmihalyi, 1990). Flow is the stage of engagement, optimal happiness and peak experience which is the intense feeling of concentration and a loss of the sense of time (Norrish & Vella-Brodrick, 2008). Peterson, Park, and Seligman (2005) also explained that this engaged state could be a possible way to happiness and well-being which is beyond the pleasure state.

Relationships mean the connection, love, intimacy and other interaction with other humans. Feeling loved, supported, and valued by others is important to human beings since we are social animals. Therefore, having strong and positive

relationships with other human beings such as parents, relatives, friends, is important for spreading love and joy. Having good relationships is important for human's survival. When facing difficult times, support is needed. Diener and Seligman (2004) also explained that close and supportive interpersonal relationships are positively correlated with individual happiness and well-being.

Meaning is life's purpose. In order to live a life of happiness and fulfillment, there should be a meaning to life. Not only pleasure or material wealth, but having a purpose in life can give people a reason for living. Human beings naturally connect to something greater than themselves. This is why we have families, clubs, organizations, religions. A meaningful life is when persons apply their signature strengths contributing to the greater good or to worthwhile causes (Norrish & Vella-Brodrick, 2008). For example, people can feel happy about their work because they can do well or it is something they like. However, they will feel much better and more satisfied knowing that their works has had good impact on others. Thoits and Hewitt (2001) also suggested that doing volunteer work contributes to a person's happiness, which can increase one's life satisfaction, self-respect, and also social bonds.

Accomplishments mean having goals or ambition in life to be completed. When a person achieves goals, there is a sense of pride and fulfillment. It is important for human beings to have important accomplishments in life, pushing ourselves to grow and to be better. Lyubomirsky, King, and Diener (2005) also viewed that happiness and a positive affect will lead to increased success in life domains. This means that happy people will be more successful in work, have better health, and relationships and more.

The scale from the PERMA model of well-being will be used to measure one of the aspects of successful aging in the present study, the dependent variable.

2.8 Dependent Variable: Successful Aging – Happiness in Later Years

Finding a measurement of successful aging is not easy. A person that lives the longest is; most likely to also face the most loss, such as the loss of friends or health, and a person striving too much for self-sufficiency also can lose social engagement (Baltes & Carstensen, 1996). Further, even though health seems like everything for older adults, Wong has pointed out that even the healthiest person will finally be defeated by illness (Wong, 1989). The concept of how to measure if a person ages successfully or not is discussed below.

2.8.1 Well-being: Life satisfaction and Well-being

The most general investigated definition of successful aging is happiness and life satisfaction with one's past and present life (Havighurst, 1963). Happiness is a personal concept of how a person in his/her life has different life goals (Suikkanen, 2011). The concepts of happiness and life satisfaction are a little different, as life satisfaction is more the evaluation of one's entire life whereas happiness is more a positive feeling related to one's current or some specific circumstances. Therefore, the concept of life satisfaction is broader and more complicated compared to the concept of happiness. According to Veenhoven (1996), life satisfaction is the degree to which a person positively assess the overall quality of his or her life or how much the person likes his or her life. As persons live, they subjectively assess their life's conditions as to whether they have feelings of satisfaction or dissatisfaction. Life Satisfaction can be measure by the Satisfaction With Life Scale-SWLS (Pavot & Diener, 1993). This life satisfaction scale will measure how satisfied older persons are with their current situation and also the past. The more people feel satisfied with the lives they have lived and their present conditions, the more successful they are in the aspect of aging.

Psychologists have commonly used life satisfaction and appraisal of well-being to operationalize successful aging (Baltes & Carstensen, 1996). Life satisfaction is also commonly used as an index for success in later life stages such as retirement (Parnes, 1981). Havighurst (1963) defined successful aging as the maximized life satisfaction and happiness condition of both the individual and society. Harvighurst

(1963) also clearly defined that a person is aging successfully if he/she feels satisfied with his/her past and present life counting life satisfaction as an attribute of successful aging.

According to Martin et al. (2014), the concept of life satisfaction is closely related but not identical to successful aging. The concept should be extended to happiness, as it includes more aspects such as life satisfaction, well-being, quality of life and also self-actualization. Researchers from the psychological field have changed the focus to be more on the personal meaning in life in the development of old age and also as an index of successful aging (Dittmann-Kohli, 1990; Wong, 1989). Referring to Knight and Ricciardelli (2003) and Palmore (1979), older people themselves have defined happiness and other components of life satisfaction as a measurement of successful aging.

Regarding the concept of well-being, one of the recognized theories of well-being is the PERMA model developed by Martin Seligman that was mentioned earlier: Seligman, is one of the founders of positive psychology. In the present study, the scale from PERMA model of well-being was used to measure one of the aspects of successful aging. According to Seligman (2012), these five elements can bring fulfillment, happiness and meaning to people. Even though PERMA model can explain different aspects of well-being, however, it cannot truly explain life satisfaction, which is more subjective and varies according to what a person values in his or her life.

Both life satisfaction (Abbey & Andrews, 1986; Andrews & Withey, 2012) and well-being (Glass, 2003) are also the most frequently proposed and studied for the components regarding quality of life. Additionally, in the Berlin Aging Study of people aged 70-100, the sense of well-being was used as an indicator of successful aging (Freund & Baltes, 1998; Smith, Borchelt, Maier, & Jopp, 2002). It was shown that well-being is associated with life satisfaction, with happiness positively affecting health, success, and other life outcomes (Diener & Chan, 2011). In the present study, both life-satisfaction and well-being were measured under the concept of well-being.

With a broader and more objective meaning of well-being, life satisfaction was studied as one of the key components of well-being.

2.8.2 Self-actualization

Another indicator of successful aging is self-actualization. Rentsch (1997) explained that aging is the radicalization of human conditions, and it is like a conflict between self-actualization and self-alienation. According to Baltes and Silverberg (1994), self-actualization is also used as one of the measurements of successful aging. Maslow's hierarchy of needs mentions higher order needs. According to the hierarchy of needs model, there are five levels of a human's motivational needs: physiological, safety, love, esteem and self-actualization (Maslow, 1954; Maslow, 1943). Maslow believed that a person has the potential to satisfy these needs. The lower levels of basic needs have to be fulfilled before continuing to reach the higher levels. The highest level is self-actualization, the need for personal growth finding the life meaning that is important to a person (Maslow, 1962). Each person's self-actualization can be achieved in different ways depending on the person's desire. Achieving self-actualization is difficult, and not everyone is able to attain this stage. Nevertheless, fulfilling older adults' lower level of needs, such as social needs and self-esteem needs, can eventually lead to self-actualization. The persons that are capable of self-actualizing will have achieved their potential as persons. Maslow (1962) believed that this experience will make person understand the world as it is, with the feelings of joy and wonder. According to Lee (2011), self-actualizing person can live fully in the here and now, tying the past and the future making a meaningful continuity in the present even in their old age.

In this study, the measurements of well-being and self-actualization will be used to represent "successful aging". All of these indicators can measure not only how long a person can live but rather how much life is added to their years. It is about how an older person can live happily, in wellness and continue being true to themselves until the later time of their lives.

2.9 Life Course Factors Affecting Current Behavior and Status: Personal Achievement Profile, Resilience

Life course factors:

Since successful aging may not occur in a short time, this group of factors is the life course factors that are accumulated over one's lifetime, including one's personal- achievement profile and resilience. In this study, life course factors include both the personal- achievement profile and resilience, which could later lead to successful aging. It is measured by how older people perceive themselves in their personal and achievement profiles over the life course and also their ability to adjust to change and adversity (resilience).

Moreover, the life course factors could also affect current factors. Following the continuity theory, people will find adaptive strategies to continue the same lifestyles they used to have.

2.9.1 Personal- Achievement Profile

Generally, the demographic profile is considered the control variables affecting the dependent variable. However, in this case more details will be asked using both open-ended questions and also for opinions based on Likert scale questions. Since the older adults are the group with the most experience in life, the questions were designed to include most aspects of life; childhood, education attainment, occupation and income achievement and also social status.

Regarding childhood, some researches include childhood factors as the predictor of successful aging. Ferdows, Jensen, and Tarraf (2017) conducted a study exploring how childhood contributes to healthy aging and found that a good childhood contributes significantly to healthy aging. The most common socioeconomic factors are education level and income level; they are non-modifiable as it is each person's characteristics in the past. However, they can be studied in order to understand what could be the profiles of successful aging for the future generation.

According to the continuity theory, people tend to maintain the same activities, behaviors, and relationships as they did earlier (Atchley, 2011). Therefore, from what people do, experience or achieve when they are younger, there is a tendency for people to continue them. Older adults will continue their behaviors basing on past experiences using adaptive strategies (Atchley, 1971).

The present author believes that if a person has a good personal achievement profile, such as a good childhood, good academic achievements, a good occupation and income, good social status, he or she will find adaptive strategies to maintain his or her activities and status when he/she gets older. This leads to the first hypothesis.

H1: A person's personal achievement profile has a positive relationship with his or her current behavior and status.

2.9.2 Resilience

According to Luthar, Crossman, and Small (2015), resilience means the ability of people to become stronger, attaining positive outcomes from adverse situations.

The overall consensus for the meaning of resilience is the capability or positive and effective coping strategy in response to risk or adversity. This is consistent with Wald, Taylor, Asmundson, Jang, and Stapleton (2006), who explained resilience as the ability to maintain or regain mental health regardless of facing difficulty. The term "resilience" first gained attention in the 1970s, explaining how some people with a troubled childhood can become capable and high-performing adults (Garmezy, 1972; Rutter, 1979). The term 'resilience' is correspondingly used to study trauma-exposed adults and how people adjust after a serious accident or adverse life course events, such as the death of someone close (Bonanno, 2012). The term is also often found in the medical field describing patients' ability to cope with difficulties.

In the beginning scholars explained resilience as a personality trait after a short-lived trauma (Bonanno, 2004). This is similar to the intellectual functioning that

helps people survive adversity, such as deficient parenting, poverty, homelessness, traumatic events, and violence and illness (Herrman et al., 2011). Later more research also included the contributing system or social support system, which helps people cope with adversity, such as family, groups or communities (Herrman et al., 2011). Resilience is also closely related with social support as it helps people overcome the difficulties. Overall, resilience is not only the process and ability to adapt to adversity; it also helps people grow and be better.

Therefore; resilience is similar to the skill of adaptability, which can be accumulated over a life time. According to continuity theory, adaptive strategies are is also mentioned, explaining how older adults can adapt well even when faces with many aspects of loss including functional loss or socio-economic losses. This leads to the second hypothesis as follows.

H2: Resilience has a positive relationship on a person's current behavior and status.

2.10 Life Course Factor Leading to Health Maintenance: Resilience

A study by Hsu (2011), it was indicated that life events can be included as one of the health risks for elderly people, as he believed that multiple negative life events at a later time of life could influence the physical or mental health of the elderly. According to researches, negative life events such as death, suicide or the illness of someone close in the family can increase the tendency of depression or anxiety (De Beurs et al., 2001; Kessing, Agerbo, & Mortensen, 2003).

The concept of resilience as adaptation to change is important. According to Franklin and Tate (2009), the meaning of aging is defined more simply according to the multidimensional reality of life. Aging was simply defined by the National Institute on Aging, referring to it as changes occurring during one's life. This is in harmony with the definition by the world health organization-that aging is an individual's process of ongoing changes biologically, psychologically, and socially.

The main question in studying resilience is how some people can endure and survive adversities without developing physical or mental health outcomes (Herrman et al., 2011). As adversities are inevitable in life, resilience was added as another factor to the present study can lead to health maintenance, which later leads to successful aging. This leads to the third hypothesis as follows.

H3: Resilience has a positive relationship with a person' s health maintenance.

2.11 Current Factors Leading to Health Maintenance: Current Health Behavior, Current Financial Well-being, Current Social Engagement

As people get older, their health will gradually decline or depreciated, as indicated before (Grossman, 1972). Some behaviors or activities need to be developed in order to maintain one's health which could later lead to successful aging. Supported by the continuity theory, even when people get older, they will try to maintain their roles, behavior and patterns implemented before in their life courses by developing their current activity patterns (Nimrod & Kleiber, 2007). This study includes three main current factors which the researcher believes can lead to good health maintenance: current health behavior, current financial well-being, and current social engagement.

2.11.1 Current Health Behavior

Rowe and Kahn (1987) claimed that there were numbers of successful agers that exist as they can largely avoid disease and disability in old age. They explained how the effects of aging are overstated, and when health behaviors are understated. This means that if modifications were applied to health behaviors, it is possible that old age can be a time of health and liveliness. The focus will be changed from treating disease and disability to be more on preventive strategies such as a good diet, exercise, and avoiding smoking and heavy drinking. According to Rowe and Kahn (1998), successful aging is dependent on individual choices, behaviors, and efforts

surrounding diet, exercise, and smoking habits. Stowe and Cooney (2014) reasoned that Kahn's model could be stronger, adding the social conditions through the life course determinants which can influence a person to age successfully. Even with criticisms, the individual's choice of behaviors is still one of the primary sources of successful aging (Stowe & Cooney, 2014).

Many researchers have found that smoking is one of the major factors decreasing the chance of successful aging (Britton, Shipley, Singh-Manoux, & Marmot, 2008; Depp & Jeste, 2006) since it reduces one's longevity and also escalates the risks of other diseases. This is also consistent with the findings by Pruchno, Hahn, and Wilson-Genderson (2012). They have conducted a lifespan study on smoking, confirming that persons that never smoked were most likely to age successfully; however, there was one interesting finding-that people that quit smoking before the age of 30 also had quite a similar chance to successfully age like those that never smoked. According to Nicita-Mauro, Maltese, Nicita-Mauro, Lasco, and Basile (2010), cigarette smoking can dramatically hasten the aging process and reduce one's life expectancy. Doll, Peto, Boreham, and Sutherland (2004) put forward a similar idea, that life expectancy can be shortened by 7-10 years because of smoking. In addition to that, more scholars have confirmed that smoking reduces functioning and also life quality in old age (Haas, Eng, Dowling, Schmitt, & Hall, 2005). Brandt, Deindl, and Hank (2012) also found that excessive alcohol consumption can have a negative impact on successful aging, however, moderate alcohol consumption can have a positive impact. They also found that engaging in consistent exercise also is a strong predictor of successful aging.

Baltes and Reichert (1992) explained that health declines can be postponed and even overturned by proper diet and exercise. According to the findings of Ferdows, Jensen, and Taraff (2017), good health habits have significant positive effects on healthy aging or successful aging more than any other factors. The examples of good health behaviors from their study included exercising, keeping proper weight, and not smoking. Pruchno and Wilson-Genderson (2012) explained correspondingly that current health behaviors could be linked to successful aging. More details were given that positive health habits in later life may counterbalance the

negative early and mid-life influences (Pruchno, Wilson-Genderson, Rose, et al., 2010; Schafer & Ferraro, 2011). This leads to the hypothesis that the more ability people have to maintain good health behaviors, the more chances they have of maintaining their physical and mental health, which later can help them age successfully.

2.11.2 Current Financial Well-being

According to Lee (2011), older adults that age successfully need to identify manageable activities and available resources to meet their specific needs that fit their functional capacity. From a study by Young-A Lee, the researcher used clothing as one need satisfier for successful aging. In this study, the researcher will consider money as one of the resources that may have a significant influence on successful aging. In material culture, money can be a tool which helps older adults in adjustment of life changes. For example, money can help older adults in maintaining health or even keep social interactions with others more actively.

In each different stages of life, people manage their finances differently according to their financial goals. People earn, spend, save, and invest differently. During this time where life expectancy is higher, there is a greater chance that people can live up to 80 to 85 years. This also means that more preparation is needed to have good financial well-being. According to Kessing, Agerbo, and Mortensen (2003), insufficient financial resources for daily expenses or being jobless can also have a bad influence on health.

Many people have carried out proper planning for retirement and they expected their retirement fund to be sufficient for the rest of their lives. Most people still never know how much savings they should have for retirement (Cooley, Hubbard, & Walz, 1998). It involves many factors, such as inflation, and other financial turmoil. Some financial hardships could force people to work longer or have lower life quality during their retirement. The extra works may need to be done even in the retirement time to make ends meet. Finally, taking on more debt at an older age

could be even more stressful. The healthcare costs of the elderly are quite high and can lead to financial burdens which can block the successful aging.

Even in developed countries such as in the United States, it has been predicted that half of the people will not have sufficient retirement money to support themselves (Warshawsky & Ameriks, 2000). Most future retirees need to rely on personal savings, and this is to maintain a reasonable income replacement (Ferraro & Su, 1999; Kleinman, Anandarajan, & Lawrence, 1999; Kotlikoff & Morris, 1987; Sterns, 1998). People are worried about whether they can retire well or not. They have no idea if they can retire or how much money is needed for retirement. The majority of people still rely only on social security money as a main source of income. The over-expectation of income after retirement and the underestimation of the medical expenses are also one of the anxieties that people experience. Additionally, many people admit that they do not have enough understanding of retirement while planning and saving too little.

In Thailand, the main income for the elderly people is 35.70% from their children, 34.30% from work, 15.30% from living allowance, 4.60% from the spouse, 4.50% from their pension, 3.80% from interest, and 1.80% from other sources (National Statistical Office of Thailand, 2014). This data show that Thai elderly people still rely heavily on their children when it comes to income. Thirty-five point seventy percent is a high number; however, this is not as high as the numbers from the past. From the decreasing percentage of income support from children and the higher living costs, it is not easy for the next generations to earn money for themselves and also for their families.

There are papers available on both the concepts of successful aging and also retirement savings. However, there is little research that attempts to link the personal financial factor to the concept of successful aging. Austin (1991) indicated that gerontologists should not forget the group that cannot age well when studying successful aging; there are many social factors that can reduce the chances of successful aging and poverty could be one of the factors. This is an important point-that the financial aspect is also essential to successful aging. The present researcher

assumes that elderly people with good financial well-being have a better chance to maintain their health or have a healthy lifestyle which could later lead to successful aging.

2.11.3 Current Social Engagement

There are many terms used in successful aging studies such as social engagement, social roles, activity, social contacts and relationship with others (Bowling, 2007). In this study, only the term "social engagement" will be used to avoid confusion.

Human, by nature, is a social being. It is important that humans needs to involve themselves in society. Death is defined as the absence of behavior (Kaplan, 1990). Therefore, social engagement is actually very important for health and it is in harmony with being alive. Life engagement is defined as the extent to which a person engages in activities that are personally valued (Scheier et al., 2006). Persons should know what goals they value and engage themselves in activities to attain those goals. It is important that individuals have and continue their purposes in life even at an older age. Engaging in behavior is very important to stay alive and to remain healthy (Carver Charles & Scheier, 1998). Without engaging in any activity, a person could feel empty, living a life without purpose (Wrosch, Scheier, Carver, & Schulz, 2003). For example, many older adults may still love to work, but need to retire because of age, illness, pain, or other limitations. Without activity, a person's life could be empty and lack purpose. Finding substitute tasks or activities that give them satisfaction is better than not working on anything. It is healthier for their psychological and physical well-being. Hobbies are good samples of how people work with enjoyment.

Activities, paid or volunteer jobs or hobbies, can help elderly persons feel alive and also provide them with a meaningful contribution to society. It has been stated for a long time that active life engagement activities can protect one against cognitive decline. There are also studies linking activities to better cognitive measures, physical health and mental health. For instance, Parslow, Jorm, Christensen, and Mackinnon (2006) tested the number of activities and if they were

associated with better cognitive benefits. Some of the respondents also reported better physical health and also better psychological health. The purpose of life is mainly derived from having activities that one wants to engage in and this has important implications for health. Waterman (1993) explained in a similar way, saying that happiness will be maximized when people's life activities match one's values.

Studies have shown that social engagement and other related terms are associated with better health, both physical and mental functioning (Everard, Lach, Fisher, & Baum, 2000; Reuben, Judd-Hamilton, Harris, & Seeman, 2003; Seeman, Lusignolo, Albert, & Berkman, 2001). A study by Blazer (1982), and a study by House, Landis, and Umberson (1988), also explained similarly that social support and also a person's life style can affect illness and death. Life satisfaction was found to be greater in older people that were socially active and engaged (Havighurst, Neugarten, & Tobin, 1964). Blau correspondingly found that life satisfaction increases with having new roles and other social interaction (Blau, 1973).

Social engagement includes both family relationships and involvement in the society. Family relationships or family interaction are highly correlated with life satisfaction (Lohmann, 1977) According to the research by Tanya Finchum and Joseph A. (2000), friendship is very important, especially in the later life. Friendship can help humans safeguard themselves against occupational stress, psychological illness, and also other negative incidents in life (Duck, 1983). According to Finchum and Weber (2000), the continuity theory presents a positive view of aging as older adults can maintain their friendship structures. Friends have been defined as the family that we choose for ourselves (Maggio, 1996). This means that friends are significant for people in the same way as the family is, and this suggests close relationships and bonds. The more people are engaged with society, the more chance they have of maintaining their health, which can lead to successful aging.

Overall, the activities developed in the later years, including having good health behavior, good financial well-being, and good social engagement, could give people more chances to maintain their good health or at least a healthy lifestyle,

which can later lead to successful aging. The fourth hypothesis then is stated as follows:

H4: A person's current behavior and status (health behavior, financial well-being, social engagement) have a positive relationship with his or her health maintenance.

2.12 Life Course Factors Leading to Successful Aging: Personal Achievement profile, Resilience

A good childhood can also be an important factor contributing to successful aging. If a child receives love and support from a good family, having a good childhood, there is high tendency that when the person enters to adulthood and later adulthood, that person will continue the same personality and behaviors following the continuity theory.

A higher education level can imply a higher standard of living and also higher life expectancy. According to Case, Fertig, and Paxson (2005), the educational achievement among young adults also has an influence on successful aging. Austin (1991) also stated that gerontologists should not forget the group that cannot age well when studying successful aging. There are many social factors that can reduce the chances of achieving successful aging on life and limited educational opportunities could be one of the factors. Arthur P. Crabtree (1967) similarly emphasized education as the key to successful aging and further explained that education should be continued for older adults if they have the desire to learn. A study by Kubzansky, Berkman, Glass, and Seeman (1998), also indicated that a lower level of education achievement will lead to less happiness and also poorer biological conditions. According to the survey of older persons in Thailand by National Statistical Office of Thailand in 2014, around three-fourths of Thai older adults complete only primary school or lower (National Statistical Office of Thailand, 2014), with an estimated 10% of older adults that never get an education. However, since it is a law in Thailand that all the citizens must get an education, more older adults, especially the early group

(60-69 years) will have a higher chance to have received a higher education. This educational profile will be used for the data on the samples and also other interesting findings.

According to Pruchno, Wilson-Genderson, Rose, and Cartwright (2010), successful aging is also affected by a person's contemporary characteristics such as employment status. Jobs could be related to different levels of income, which may imply different standards of living and also life expectancy. A survey of older persons in Thailand by National Statistic Office-Thailand in 2014, estimated that 38% of older adults still have their jobs, especially in the field of business (National Statistical Office of Thailand, 2014). A higher percentage of older adults (almost 50%) stated that they are still working. This profile will be used for the data on the samples and also other interesting findings. A few studies have shown that a low level of education and income strongly corresponds to the shorter lives and also health longevity (Bassuk, Berkman, & Amick III, 2002; Fukuda, Nakamura, & Takano, 2005).

The personal achievement profile, including having a good childhood, academic attainment, a good occupation and income level or social status achieved before retirement could be one of the factors predicting successful aging. This leads to the fifth hypothesis as follows.

H5: A person's personal-achievement profile has a positive relationship with his or her successful aging.

According to Pruchno, Heid, and Genderson (2015), paying more attention to the life course of older people may help with the understanding about resilience and also successful aging. Flood (2005) defined successful aging as the adaptive ability to maintain connectedness and also life meaning. In Flood's study (2005), the predictors of successful aging include adaptation and transcendence, and the concept of adaptation has some similarities with resilience.

This does not mean that a person needs to face many adversities in order to age successfully. However, adversities are unavoidable in life. According to Pruchno, Heid, and Genderson (2015), older people have lived for a long time, and this also

means that they have experienced physical losses, including the ability to hear and see, or social losses such as the death of someone in the family, and even role-related losses such as retirement or divorce.

A few studies have shown resilience to be one of the characteristics that can predict successful aging (Jeste et al., 2013; Wagnild, 2003). Resilience can be studied in terms of different constructs, for example according to the aspect of personality, intellectual functioning or social support. This leads to the sixth hypothesis as follows.

H6: Resilience has positive relationship on successful aging.

2.13 Health Maintenance for Successful Aging

It is necessary for older adults to maintain or even regain their health. If not, it will be like scholars have explained, that health will gradually weaken as people age (Grossman, 1972).

The word “health”, as defined by the World Health Organization, is “a state of complete physical, mental and social well-being with absence of disease” (Callahan, 1973). This is another idealistic concept of health; however, it is supported well by Rowe and Kahn’s model. Disease, defined by Merriam Webster dictionary, is an illness or condition that prevents the body and mind from working normally (Mish, 2004). Normally the concept of health is measured by medical aspects such as mortality or illness and focuses on the person’s disease or body functions.

However, in the socio-medical field, researchers have tried to indicate health more in terms of quality of life (Hunt et al., 1980). Health has been viewed as a “process of development, an actualization, an outcome of a style of life” (Meleis, 1990). Each individual, especially older people, could also have personal definitions of health. For instance, Kaufman tried to understand the meaning of health for elderly people. People could have different standards; some people may expect excellent conditions, while others might think that the absence of illness is adequate (Kaufman, 1996). People can also have different attitudes toward health. Some persons view

health as a state of mind; feeling fine, positive and not giving up means being healthy to them. The health condition could also be a comparison to others or to oneself at a different age. For example, a person can feel that he/she is better or worse in health compared to other people in the same age, or compared to the time when a person was young, how well a person can endure and handle the changes.

In this study, health maintenance will include both physical health and mental health, which could later lead to successful aging. It is measured by how older people perceive themselves in maintaining their physical and mental health, limiting disease and disability and having high functioning.

2.13.1 Maintaining Physical Health

According to the Definition and Prevalence of Rowe and Kahn Successful Aging Dimensions Assessed at Final Wave of Data Collection in 1932 and 1952 Cohort Members, the diseases include coronary heart disease or stroke, chronic obstructive pulmonary, cancer (excluding skin), diabetes, and Parkinson's or other mental health problem. Disability, according to the World Health Organization, covers impairments and activity limitations in body function or structure. Disease and disability are not just a health issue, but also can produce difficulty in a person's body and in the society in which he or she lives. As a person gets older, the chance of getting a disease or disability is higher than the young due to physical and psychological declines. In the past, success in gerontology has been tied to the healthcare ability to treat illness. Today's medical care however has shifted the focus from the doctor's analysis to be more consumer-focused. The trends not only focus on treatment but rather promote self-care and illness prevention. This involves the patients assessing and improving their own health. This causes health issues to become more and more essential, especially when people get older. Due to their physical and psychological declines, older persons need to take more care of their health compared to the young.

Many researches on the diseases in old age and their treatment explain well the diseases that are common with advancing age (Nascher, 1914). These studies have

tried to divide people into “normal” and “diseased”. This relates well with the concept of “usual aging” and ‘successful aging’. Although Rowe and Kahn focus on the idealistic concept of having no disease, disability and good functioning, there could be other factors that are also important to help people age well. Minkler and Fadem (2002) reviewed this factor of Rowe and Kahn’s model and indicated that it would be more realistic if there is a low probability of disease and disease-related disability. In the modern day, people with a disability can also function better even with an impairment. In the past, under the widely-used model of Rowe and Kahn, the concept of successful aging was defined as being free of disease and disability (Depp & Jeste, 2006; Montross et al., 2006) Health and health maintenance themselves should gain more attention in the area of successful aging including limited disease and disability, and high functioning.

The major causes of death and disability are not infectious disease but are changing to non-communicable diseases or chronic diseases. According to the fact sheet by the World Health Organization, non-communicable diseases or chronic diseases kill 40 million people each year which is equal to 70% of deaths globally (World Health Organization, 2017). Chronic diseases are long-term and also a combination of genetic, physiological, environmental and behavior factors. Examples include diabetes, cardiovascular diseases, cancers, and chronic respiratory disease. This is consistent with information from the U.S. Department of Health and Human Services, which indicated that there will be a large increase in disability because age-related chronic disease in all regions increasing a loss of health and lives worldwide than other infectious diseases, childhood diseases, and accidents (Dobriansky et al., 2017). According to the documents by the World Bank Group, it showed that the low and middle income countries carry 44 percent of the burden of chronic diseases, but this was predicted to rise to 54 percent by 2030 (Lopez, Mathers, Ezzati, Jamison, & Murray, 2006).

According to Marquez and other scholars Marquez, Bustamante, Blissmer, and Prohaska (2009), the aging population will generate more costs of health and social support systems, which makes health a very important factor in terms of promoting successful aging. From the same study, it was explained how a number of

older adults do not currently live a healthy lifestyle and are in danger of having poor health, chronic disease and mortality lessen the chances for successful aging (Marquez et al., 2009). Hsu (2011) explained correspondingly that chronic conditions are one of the common health risks that older people need to live with in maintaining a successful aging life.

Physical functions or physical activity is identified as the individual's capacity to undertake daily tasks (Cooper et al., 2010). Caspersen, Powell, and Christenson (1985) also defined it as the bodily movement by skeletal muscles using energy.

It normally includes activities such as walking, reaching, climbing stairs, and exercising. Cognitive and physical limitations could increase the risk of disability, falls, depression, and other healthcare costs (Ervin, 2006). The World Health Organization also recommend older people (without medical limitations) to take part in moderate-intensity activities (e.g. low-impact aerobics, golfing, badminton) for at least 2 and a half hours each week (Organization, 2006).

Researches have shown that physical activity is connected with overall successful aging. According to Warburton, Nicol, and Bredin (2006) physical activity has a strong relationship with preventing disease and disease-related disability including cardiovascular disease, type 2 diabetes, cancer, and obesity There are indications that older people that actively engage in life and society are generally more actively engaged in physical activities (Colston, Harper, & Mitchener-Colston, 1996; Dogra, Meisner, & Baker, 2008). Thus it is clear that physical activity is one of the promoting indicators of good health.

According to many scholars, the psychological and physical well-being of older people can be enhanced by taking part in physical activities at different intensity levels (Frye, Scheinthal, Kemarskaya, & Pruchno, 2007; Lindwall, Rennemark, & Berggren, 2008). Morgan and Bath (1998) explained the findings in their research-that older adults with regular physical activity habits have good body strength and capacity as well as a good sense of well-being. Good physical activity is associated with health benefits and also well-being. According to Meisner, Dogra, Logan, Baker,

and Weir (2010); physical inactivity also has strong relationship with functional limitations, and moreover, moderate-level physical activities are an efficient way of optimizing functional health in later life.

Health is an important factor that affects successful aging. According to Marsh (1980), even if the older adults are healthy, they will experience a decline in energy, muscular strength, response speed, sight, and also in the ability to adjust to extreme heat or cold. Even if humans now have a higher life expectancy, there were debates if we are just adding more years spent in poor health (Dobriansky et al., 2017).

Baltes and Reichert (1992) explained that physical decline can be postponed and even overturned by proper diet and exercise. Thus it can be concluded that good health behaviors can lead to good physical health and finally successful aging. According to a study by Marquez et al. (2009), the authors concluded that successful aging in the United States can be initiated and continued if people can begin leading healthy lifestyles, and that is even desirable for people to have healthy lifestyles before reaching old age. This is for the older adult's own successful aging, as it will enable them to have more quality time with family, grandchildren, or friends.

2.13.2 Maintaining Mental Health

Cognitive function is generally defined as an intellectual process or cerebral activities such as thinking, reasoning, memorizing, which lead to the attainment of knowledge. Miller and Wallis (2009) explained cognitive function as the ability to coordinate thoughts and actions directing them towards a goal. It is different and more complex than other automatic forms of brain processing because it is not a reflexive process but rather-a learning mechanism. For example, a person does not need good cognitive function to eat or drink. However, a person needs cognition for planning for and achieving successful retirement. Cognitive function can include all the intellectual, affective, and creative types of functioning. Cognitive abilities are not fixed;, and they can be improved by practice and in one's lifestyle. Elderly persons,

who are still active in carrying out any task, simple and complex, will have more chances to boost their cognitive functions.

The psychological factors, self-efficacy and stress, proposed by Rowe and Kahn (1987) have been studied in less depth compared to the physical factors. However, there are other studies that have focused more on psychological factors. Kahana, Kelley-Moore, and Kahana (2012) found that chronic stress and recent negative life events can decrease the likelihood for successful aging. According to Baltes and Lindenberger (1988); and Warnerschaie (1993), older adults can improve their cognitive output when the conditions of learning and performance are improved.

There have also been studies on the relationship linking physical fitness and cognitive functions. Athletic people, both young and older adults, show better cognitive performance compared to sedentary people (Spirduso & Clifford, 1978). Some researchers have used animal models showing that exercise has a positive impact on cognitive functions, such as neurochemical changes in rats and mice in response to exercise (Black, Isaacs, Anderson, Alcantara, & Greenough, 1990). Even though research on humans is much more complex, many studies have shown the benefit of exercise on physical and cognitive functions. Retaining high cognitive and physical function can help a person maintain similar performances to those when the person was young. Bowling and Browne (1991) and Krause (1990) explained that physical health is undeniably tied to mental health at any age. According to Smith, Plawecki, Houser, Carr, and Plawecki (1991), self-assess health or perceived health is one of the significant predictors of older adults' life satisfactions, and according to Fries and Crapo (1981), the attention to successful aging is on delaying disease, which means the number of years spent with good health, lacking a major disease and disability. This means that the healthier the older adult feels, the more satisfied he or she is with his/her life.

Overall, health maintenance, including maintaining physical health and mental health, could give a person greater chances to achieve successful aging. The last hypothesis is stated as follows:

H7: Health maintenance has a positive relationship with successful aging.

2.14 Conceptual Model and Development of Hypothesis

Rowe and Kahn's model has given this study a basic understanding of the concept of successful aging. However, the researcher of this study believes that many modifications should be implemented, and a new proposed model could provide a more holistic view of successful aging. First, the definitions of successful aging vary among researchers (Pruchno, Wilson-Genderson, & Cartwright, 2010) and a definition is still unclear in the academic field; as such, the definition of successful aging should incorporate the insights from older people themselves. Since older people are the ones experiencing the later years, their perception should be taken into consideration as to whether they have aged successfully or not. Secondly, a model of successful aging should be multi-dimensional, including both life course factors and current factors, in order to gain a more holistic understanding of successful aging. Current factors should include the socio-economical and health-related factors that encourage older people to age successfully. Moreover, the life course factors should better prepare the next generation to have a better chance to successfully age. Lastly the model should consider difference in context as the factors should also be appropriate to the location of the study which is Thailand.

Regarding the research model, the researcher of this study has developed the variables to serve the research objectives. The key variables include: 1) current behavior and status; 2) health maintenance; 3) personal-achievement profile; 4) resilience 5) successful aging (well-being, and self- actualization). And some demographic controlled variables will be used in the model such as age, gender, marital status, nationality, highest education level, type of jobs, and level of income.

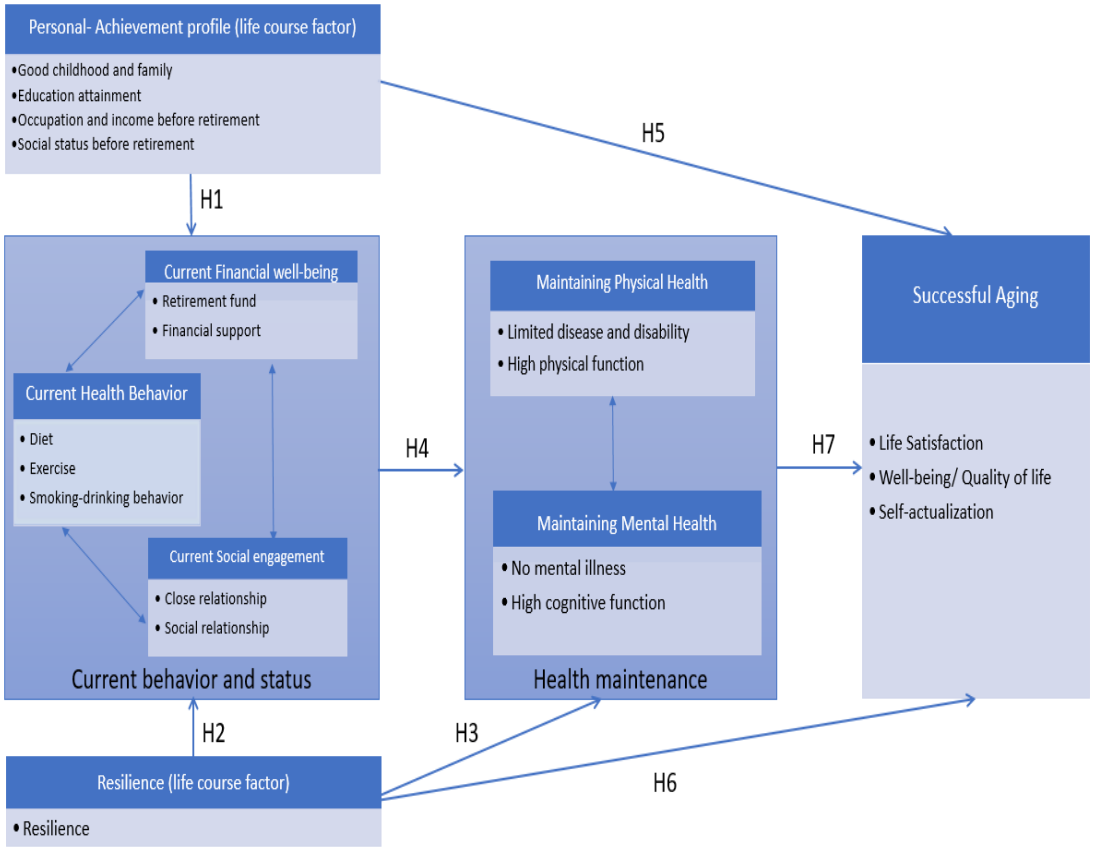

Figure 2.3 Conceptual Model

H1: A person's personal achievement profile has a positive relationship with his or her current behavior and status.

H2: Resilience has a positive relationship on a person's current behavior and status.

H3: Resilience has a positive relationship with a person's health maintenance.

H4: A person's current behavior and status (health behavior, financial well-being, social engagement) have a positive relationship with his or her health maintenance.

H5: A person's personal-achievement profile has a positive relationship with his or her successful aging.

H6: Resilience has positive relationship on successful aging.

H7: Health maintenance has a positive relationship with successful aging.

CHAPTER 3

METHODOLOGY

3.1 Research Context

In this study, quantitative research was used to obtain a large amount of data from the population. The researcher of this study studied previous journals and researches about aging and came up with the hypothesis set. The goal was to check if the hypotheses are true in reality using the results from the research sample to make more accurate conclusions and recommendations regarding successful aging.

The study focused on finding the causal relationship. The main reason for conducting a research is to solve a problem; aging is not a trouble caused by someone growing older, but rather when someone does not age efficiently. Unsuccessful aging is the real problem causing negative effects in the individual, and at societal and national levels. Finding the major factors that lead to successful aging can solve this specific problem effectively, and knowing the significant current and life course factors leading to successful aging can increase the number of more successfully-aged people.

The factors in this study include both current and life course factors. The current factors include current health behavior, current financial well-being, and current social engagement which can help older people maintain their health and finally lead to successful aging. However, because this process may not be achieved quickly, life course factors must also be added, including the person's personal achievement profile and resilience. Personal-achievement profiles consist of having had a good childhood, high educational attainment, having a high income and a good occupation, and good social status; these profiles can help older people retain their current behavior, status, and this also directly leads to successful aging. Not only are

successes and achievements attainable in life, but adversities are also unavoidable and sometimes uncontrollable. The other life course factor is resilience, which is ability to adapt to and face negative situations in life. Good resilience can help people maintain good physical and mental health. Moreover, good resilience can help a person survive and deal well with adversities in life. These life course factors can positively affect the current factors and also can directly lead to successful aging.

A structured questionnaire survey was used to collect the data obtained in numerical format. The scales for whether the respondents agreed or disagreed were coded as numbers.

3.2 Sample and Data Collection

The population of Thailand has been estimated to be 69 million people with 35 million females and 33 million males, and is ranked 20th in the world population, as ordered by population size (United Nations, 2017b). It was highlighted that Thailand was one of the countries that have below-replacement-level fertility rate between 2010 and 2015 (United Nations, 2017b). The United Nations has classified Thailand as an aging society and will classify it as an "aged society" by 2025. The size of the populations in greater details is shown in Table 3.1.

Table 3.1 Thailand Population Numbers in 2017

Country	**Population (thousands)**			**Population by age group (percentage)**			
	Total	Male	Female	0 – 14	15-24	25- 59	60 and above
Thailand	69,038	33,665	35,373	17	14	52	17

Source: United Nations (2017b), World Population Prospects: The 2017 Revision, Key Findings and Advance Table

Thailand is not comprised of only Thai people, but also people of other ethnicity such as the Chinese, Malay, Las, Burmese, Cambodian, and others. Regarding foreign residents in Thailand, the 2010 census has shown that almost 4.1%

of the population in Thailand are non-Thais, including Burmese, Laotians, Cambodians, Chinese, and others (National Statistical Office of Thailand, 2010a). There were also migrants whose numbers are not included here. This is consistent with the information that on September 1, 2010, Thailand has a population of 65.5 million which 62.3 million were Thais (95.1%) and 3.2 million were non-Thais (4.9%) (National Statistical Office of Thailand, 2010b). More information is shown in Table 3.2.

Table 3.2 The number and the percentage of Non-Thais in Thailand

Region	**Population**	**Percent**	**Non-Thai people**	**Percent of Non-Thais/ total population**
Whole Kingdom	65,479,453	100%	3,191,243	4.9%
Bangkok	8,249,117	12.6%	844,744	1.3%
Central	18,148,473	27.7%	1,147,131	1.75%
North	11,432,488	17.5%	548,991	0.8%
Northeast	18,808,011	28.7%	184,704	0.28%
South	8,841,364	13.5%	465,673	0.71%

Source: National Statistical Office (2010b), Preliminary Report The 2010 Population and Housing census (Whole Kingdom)

Thailand is one of the high-ranking target destinations for retirement. Comparing Thai and foreigners, the opinion of people on successful aging may differ. One facet which is the most important for people in one culture might not be so important for people in another culture. Not only this, but the outlook regarding the aging of Thai people and foreigners could also be different.

Following the population structure from the census in 2010, there was an estimated 95% Thais and 5% foreigners in Thailand. A self-administered questionnaire survey was used for data collection during the research. A total of 650 questionnaires was distributed; 610 Thai-version questionnaires were distributed to

Thai people who are 60 years old or more, and the 40 other English-version questionnaires were distributed to any foreigners who are 60 years old or more. The questionnaires answered by someone younger than 60 years and incomplete papers were excluded from the study. Incomplete questionnaires were also dismissed.

This research targeted the sample of older adults in Thailand: the Bangkok, metropolitan areas, large cities, and some selected rural areas. The provinces chosen for distributing the research questionnaires were those with largest numbers of elderly people, such as Bangkok, Chiang Mai, and others.

In Thailand, there are five main regions. The central region is comprised of 19 provinces, including Bangkok. The northern region consists of 17 provinces. The north-eastern region consists of 20 provinces. The southern region consists of 14 provinces and the eastern region consists of 7 provinces. The total number is 77 provinces for 5 regions. In 2016, the northern region was the area with the largest percentage of older persons (16.56%) followed by the central region (16.15%) (Official Statistics Registration Systems, 2016) . According to the information from Official Statistics Registration Systems-Department of Provincial Administration, the province with largest numbers of older adults was Bangkok, followed by Nakhon Rachasima, Chiang Mai, Khon Kaen and Nakhon Si Thammarat. Information of the numbers of older adults is shown in Table 3.3 and 3.4 (Official Statistics Registration Systems, 2016).

Table 3.3 Number of the Elderly People by Gender and Region

Regions	**Numbers of total population**			**Numbers of older adults (60 years old and above)**			**Percentage (%)**
	Male	Female	Total	Male	Female	Total	
Central	8,586,769	9,285,701	17,872,470	1,276,470	1,610,639	2,887,109	16.15%
Northern	5,933,537	6,145,569	12,079,106	907,626	1,092,675	2,000,301	16.56%
Southern	4,603,124	4,738,038	9,341,162	544,019	694,457	1,238,476	13.26%
Southeast	10,922,617	11,022,755	21,945,392	1,412,512	1,705,251	3,117,763	14.21%
Eastern	2,311,761	2,381,659	4,693,420	338,511	352,149	690,660	14.72%
Total	32,357,808	33,573,742	65,931,550	4,479,138	5,455,171	9,934309	15.07%

Source: Official Statistics Registration Systems, Department of Provincial Administration (2016), Statistics of the Elderly People in 77 Provinces 2016

Table 3.4 Number of the Elderly People by Gender, and Region

5 Provinces	Numbers of total population			Numbers of older adults (60 years old and above)			Percentage (%)
	Male	Female	Total	Male	Female	Total	
Bangkok	2,687,253	2,999,393	5,686,646	391,177	545,688	936,865	16.47%
Nakhon Rachasima	1,297,919	1,333,516	2,631,435	179,238	221,258	400,496	15.22%
Chiangmai	843,088	892,674	1,735,762	129,599	154,898	284,497	16.39%
Khonkaen	889,133	912,620	1,801,753	125,594	150,435	276,029	15.32%
Chonburi	726,918	756,131	1,483,049	75,292	100,583	175,875	11.86%

Source: Official Statistics Registration Systems, Department of Provincial Administration (2016), Statistics of the Elderly People in 77 Provinces

The six provinces where the highest numbers of elderly people reside, representing each six regions in Thailand.

The quota sampling technique was used in this study. This non-probability sampling technique allows the researchers to sample interested subgroups within a limited time and budget. The researcher tried to control the number of samples in each different region in order to ensure all regions represented of the older adults in Thailand. The researcher of this study spent an estimated 5 to 6 months collecting the questionnaires. The selection criteria were Thai and foreign older adults aged at least 60 years residing in Thailand. The researcher distributed the questionnaires at hospitals, restaurants, large parks such as Lumpini park, and at some private and public organizations in Thailand.

For the sample size, this study used the Yamane formula (Yamane, 1967) to calculate the sampling size that requires a 95% coincidence level and a 5% precision or significant level (Yamane, 1973).

$$n = \frac{N}{1 + N(e)^2}$$

n = Number of items in samples, N = Number of population, e = the error of sampling

The numbers of older Thais who age more than 60 years old in year 2014 were as follow.

Table 3.5 Number of the Elderly by Sex, Province, Area and Region

	Total	**Male**	**Female**
Whole Kingdom	10,014,705	4,514,815	5,499,890
Bangkok	942,586	412,760	529,826
Central Region	2,561,881	1,132,330	1,429,551

Source: National Statistical Office. (2014). Older Persons in Thailand: Tables_olders_2014. Ministry of Information and Communication Technology

$$n = \frac{10{,}014{,}715}{1+10{,}014{,}715(0.05)^2} = 399.9840$$

Table 3.6 Sample Size for ±3%, ±5%, ±7%, ±10% Precision Levels Where Confidence Level is 95% and Significance Level (α) = 0.05

Size of	**Sample Size (n) for Precision (e) of:**			
Population	±3%	±5%	±7%	±10%
500	a	222	145	83
600	a	240	152	86
700	a	255	158	88

Size of	Sample Size (n) for Precision (e) of:			
800	a	267	163	89
900	a	277	166	90
1,000	a	286	169	91
2,000	714	333	185	95
3,000	811	353	191	97
4,000	870	364	194	98
5,000	909	370	196	98
6,000	938	375	197	98
7,000	959	378	198	99
8,000	976	381	199	99
9,000	989	383	200	99
10,000	1,000	385	200	99
15,000	1,034	390	201	99
20,000	1,053	392	204	100
25,000	1,064	394	204	100
50,000	1,087	397	204	100
100,000	1,099	398	204	100
>100,000	1,111	400	204	100
a= Assumption of normal population is poor (Yamane, 1967). The entire population should be sampled.				

Source: Yamane, 1967

The goal of the researcher was to collect an estimated 60% response rate according to general journal editors' expectations (Fincham, 2008). The researcher of this study sent out 650 copies of the questionnaires in order to collect approximately 400 complete responses as the sample of the study. This was a 95% confident level and a 5% precision or significance level. The manner of collecting the questionnaires was divided according to the numbers of the older adults. Bangkok, the capital of Thailand, had the largest number of older adults at 936,865 and this was double of the second province. The researcher of this study had planned to send out an estimated 650 copies of the questionnaires; 200 in Bangkok, 80 in Nakhon Rachasima, 80 in Chiang Mai, 80 in Khon Kaen, 80 in Nakhon Si Thammarat, and 80 in Chonburi. The researcher sent out 40 copies of questionnaires for the foreigners.

Specifying the group of target sample is an important process. The researcher of this study developed the primary research based on 400 older adults living in

Thailand aged more than 60 years. However, if the response rate was higher than expected, all of the questionnaires would be used as the sample of this study in order to contribute to larger sample size for structural equation modeling study. Kline (2015) explained that structural equation modeling is generally a large sample technique that can yield more precise results for some statistical estimates, especially in a complex model.

Since this topic deals with personal health and financial information, the respondents needed to understand the purpose of conducting the research. They needed to voluntarily participate and to be comfortable in answering the questions. The researcher made the data collection process as friendly as it could be. The respondent could reject participation or stop at any time. A pilot study using a small group of 40 respondents was conducted before the actual survey in order to troubleshoot the questionnaire design.

3.3 Measures

Structural equation modeling was used in this study. According to Shumacker and Lomax (2010), all of the variables related to a specific theory should be included in order for the researcher to fully explore and understand the relationships. Multiple variables can be tested in structural equation modeling, which has made it a well-known method for quantitative research.

The structured questionnaire survey was used for collecting the data obtained in a numerical format. People's thoughts and attitudes are quite difficult to be measure and usually are represented under the term "latent variable". The quantitative method can be used as well by researchers measuring thoughts and attitudes through a rating scale. The Likert scale, bipolar scaling method, can measure both positive and negative aspects. The Likert scales used in this study contained a scale of 1-6, which is an even number of items constraining the respondents to choose between agree and disagree with the statements. The scales concerning whether the respondents agreed or disagreed were coded as numbers. For example, strongly disagree was coded as 1,

disagree was coded as 2, slightly disagree was coded as 3, slightly agree was coded as 4, agree was coded as 5, and strongly agree was coded as 6. Since the data obtained were in numerical format, the statistical techniques, such as descriptive statistics and regression analysis, were used to examine the data.

The scale was a 6-point rating scale based on the idea of dividing the groups of older adults into normal aging and successful aging. The 6-point rating scale was designed to be used in this study as it can exhibit both symmetry and balance. Symmetry is a sign of equal positive and negative positions. Balance shows similar distance between values. This is also suitable for eastern cultures such as Thailand, where people avoid showing extreme opinions, preventing people from choosing only the mid-point alternative. In order to come up with the questions measuring the thoughts and attitudes of the people, the researcher of this study tried to use pre-existing scales that were developed by other scholars, and that had already been validated and that were also consistent with previous research. However, if some parts of the pre-existing scale were not relevant to the samples, the scales would be adapted, such as the modification of wording, and adding and removing some questions. Lastly, for a few concepts for which there was no pre-existing scale, the researcher developed and pre-tested her own scale to match the research and sample context. The details of the scale used in this study are as follows.

3.3.1 Dependent Variable: Successful Aging – Happiness in Later Years

For the concept of successful aging, the overall term of happiness was used for the measurement. Suikkanen (2011) explained happiness as a person's concept of how his or her life is going. In this study, the measurements of well-being and self-actualization were used to represent successful aging. All of these three indicators can represent successful aging in the context of how an older person can live happily with life satisfaction, in wellness and being true to themselves until the later time of life.

Life Satisfaction: Pre-existing scale-The satisfaction with life scale (Pavot & Diener, 1993)

To what extent do you feel about your 'life' (Life Satisfaction)

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent
3. I am satisfied with my life.
4. So far, I have gotten the important things I want in my life.
5. If I could live my life over, I would change almost nothing.

Persons have different goals in life or ideal life plans. As persons live, they assess the conditions in which they find themselves and have feelings of satisfaction or dissatisfaction. In this case the scale of Satisfaction With Life Scale-SWLS by Pavot and Diener (1993) was adjusted a little from a scale of 1-7 to 1-6 to suit the aging adults. This scale is a 6-point scale showing how satisfied a person is with his or her life. It also includes the important things achieved in life and also the conditions plus the environment of one's life. This scale was selected to be used as it is narrowly focused on assessing global life satisfaction. The scale has favorable psychometric properties with high internal consistency and high temporal reliability, and it also correlates well with other measures, such as well-being (Diener, Emmons, Larsen, & Griffin, 1985).

Well- being: Adapted from pre-existing scale- PERMA Profiler- a brief multidimensional measure of flourishing (Butler & Kern, 2016)

To what extent do you feel about your 'life' (Well-being)

1. In general, I feel joyful, positive and contented. (positive emotion)
2. I feel excited and interested in things. I become absorbed in what I am doing. Sometimes I lose track of time doing something I enjoy. (engagement)
3. I am satisfied with my personal relationship. I feel loved. And I receive help and support from others when I need it. (relationship)
4. I have a purposeful and meaningful life. What I do in my life is valuable and worthwhile. I have a sense of direction in my life. (meaning)
5. I am making progress towards accomplishing my goals. I have achieved the important goals I have set for myself. I can handle my responsibilities. (accomplishment)

According to Glass (2003), well-being is one of the most frequently-proposed components regarding the quality of life. In the book Flourish (2011) by Seligman, well-being was defined according to five pillars: positive emotion, engagement, relationships, meaning, and accomplishment. Butler and Kern have studied and developed the PERMA-Profiler as a brief measure of PERMA with 15 short questions (Butler & Kern, 2016). From these 15 short questions, the researcher combined the 3 short questions into 1 question representing each concept, leaving five questions to measure well-being. The scale was adapted only a little from the PERMA-Profiler just to lessen the number of items. The PERMA Profiler scale was selected because it has an acceptable model fit, internal and cross-time consistency, and also content, convergent, and divergent validity (Butler & Kern, 2016). It can be used to assess the well-being in many psychosocial domains.

Self-actualization: Pre-existing scale- A short index of self-actualization (Jones & Crandall, 1986)

To what extent do you feel about 'yourself' that you have actualized (self-actualization)

1. I do not feel ashamed of any of my emotions such as getting angry, frustrated or sad.
2. It is not necessary that I must do what others expect me to do.
3. I believe that people are essentially good and can be trusted.
4. I feel free to be angry at those I love. For example, I can learn to love someone when they upset me and I'm still angry about their decisions.
5. It is not necessary that others approve of what I do.
6. I can accept my own weaknesses.
7. I can like people without having to approve of them.
8. I am not afraid of failure.
9. I attempt to analyze and simplify complex domains even they are difficult tasks.
10. It is better to be yourself than to be popular.
11. I have a mission/ missions in life to which I feel especially dedicated.
12. I can express my feelings even when they may result in un desirable consequences.

13. I feel responsible to help other people.
14. I am not afraid of being inadequate.
15. I am loved because I give love.

Regarding self-actualization, the short index of Self-actualization by Jones and Crandall (1986) was used in this study. This 15-item self-actualization index was selected to be used as it was modified from the most widely-accepted measurement of self-actualization, the personal orientation inventory (Jones & Crandall, 1986). They were all put into a 6-points rating scale.

3.3.2 Current Factors for Health Maintenance: Current Health Behavior, Current Financial Well-being, Current Social Engagement

According to the continuity theory, older adults would find adaptive strategies, developing their current activities to maintain or even regain their health, which can finally lead to successful aging. This study includes three main current factors that lead to good health maintenance: current health behavior, current financial well-being, and current social engagement.

Current Health Behavior: **Adapted from pre-existing scale – a scale used in the 2014 survey of the older persons in Thailand (National Statistical Office of Thailand, 2014)**

To what extent do you take care of your health

1. I regularly drink 8-10 glasses of clean water every day.
2. I regularly take sufficient vegetable and fruit with my meals.
3. I regularly exercise.
4. I don’t smoke cigarettes
5. I don’t drink alcohol

In terms of current health behavior, the scale for the present study was adapted from the questions asked in a survey of the older persons in Thailand by the National

Statistical Office of Thailand in 2014. It was also similar to what the researcher examined in the literature. Examples are how cigarette smoking and alcohol drinking (reversed items) can lead to bad health conditions. Moreover, using questions similar to those in the reliable survey by National Statistical Office should work well to the Thai older adult group.

Current financial well-being: **Adapted from pre-existing scales – a scale used in the 2014 survey of the older persons in Thailand (National Statistical Office of Thailand, 2014) and a scale on retirement saving (Jacobs-Lawson & Hershey, 2005)**

To what extent do you feel about your 'financial well-being'

1. I owned a house or other type of living that is in good condition.
2. I have a life insurance, health insurance, social security fund or other type of insurance.
3. Currently, I have no debt or just some credit card debt which is manageable.
4. I have enough income from pension, social security fund, interest, dividend, or other types of profits from doing business or investment.
5. I have enough financial supports from my spouse, children, and relatives.
6. Since before retired, I made meaningful contributions to a retirement savings and can live my life in retirement as I planned.
7. Overall I have enough income and saving from all the sources mentioned above to live a good life in retirement.

Regarding personal financial well-being, the scale was adapted from the questions asked in a survey of older persons in Thailand by the National Statistic Office in 2014. It was also adapted from what literature and the scale on retirement saving (Jacobs-Lawson & Hershey, 2005). One question was added based on retirement savings since it is a factor that can promote financial well-being in later life. Likewise, using the similar questions to the reliable survey by the National Statistical Office should work well to the Thai older adult group.

Current Social Engagement: **Adapted from pre-existing scale- Definition and Prevalence of Rowe and Kahn Successful Aging Dimensions Assessed at Final Wave of Data Collection in 1932 and 1952 Cohort Members)**

To what extent do you feel about your social engagement

1. I am living with someone e.g. spouse/ partner/ children/ relatives/ friends.
2. I regularly have direct contact with family/ friends.
3. I have regular attendance at education/ arts, social or sports club/class.
4. I engage in a work which can sufficiently pay me.
5. I engage in a voluntary work or a childcare work in the family.
6. I engage in or being a part of a group. It could be political/ environment, community or religious/ charity group.

In terms of social engagement, the definition in Rowe and Kahn's model was adapted to assess the person's life engagement. According to the Definition and Prevalence of Rowe and Kahn Successful Aging Dimensions Assessed at Final Wave of Data Collection in 1932 and 1952 Cohort Members, life engagement means good interpersonal social engagement and good productive social engagement.

3.3.3 Health Maintenance: Maintaining Physical Health and Maintaining Mental Health

In this study; health maintenance includes both physical health and mental health, which could later lead to successful aging. It was measured by how older people perceive themselves in maintaining their physical and mental health, limiting disease and disability and having high functioning.

Maintaining physical health: **Adapted from pre-existing scales – a scale used in a self-assessed health status scale developed by Passman (Passman, 1996), the Definition and Prevalence of Rowe and Kahn Successful Aging Dimensions Assessed at Final Wave of Data Collection in 1932 and 1952 Cohort Members, and the questions asked in the 2014 older person survey in Thailand (National Statistical Office of Thailand, 2014)**

To what extent do you feel about your ‘health condition’ (on physical health)

1. Over the last 12 months, my physical health on the whole has been good.
2. For someone of my age, my health in general is good.
3. I can maintain my health so I have never experienced or been diagnosed with coronary heart disease/ stroke.
4. I can maintain my health so I have never experienced or been diagnosed with chronic obstructive pulmonary disease.
5. I can maintain my health so I have never experienced or been diagnosed with cancer.
6. I can maintain my health so I have never experienced or been diagnosed with diabetes.
7. I can maintain my health so I have no disability.
8. I can take care of myself e.g. eating, grooming, bathing, dressing, toileting.
9. I have good mobility and locomotion e.g. transferring in bed/chair, toilet, shower, car, stairs.
10. I have good vision without using glasses/ lenses.
11. I have good hearing ability without using the hearing aids.
12. I have good bladder and bowel management.
13. I have good dental care.

For self-assessed health, the scale by Passman (1996) was adapted to assess the person’s perceived health. It is a rating scale on the person’s current overall health in his or her opinion, and also compared with other people the same age.

Regarding the health-related factors, the explanation from Rowe and Kahn was adapted to assess the person’s health. According to Definition and Prevalence of Rowe and Kahn Successful Aging Dimensions Assessed at Final Wave of Data Collection in 1932 and 1952 Cohort Members, no disease means absence of chronic disease, including coronary heart disease or stroke, chronic obstructive pulmonary disease, cancer, diabetes, Parkinson’s or other mental health problems. The questions were put into 6-point rating scale to measure the older adult’s abilities. The physical ability includes daily life activities such as eating grooming, toileting, and traveling

by one's self. Additionally, some questions were adapted from the 2014 survey on older persons in Thailand to check on older person's physical health.

Maintaining mental health: **Adapted from pre-existing scales – a scale used in Performance-oriented assessment of mobility problems in elderly patients (Tinetti, 1986)**

To what extent do you feel about your 'health condition' (on maintaining mental health)

1. Over the last 12 months, my mental health on the whole has been good.
2. For someone of my age, my mental health in general is good.
3. I can maintain my health have never experienced or been diagnosed with depression, bipolar disorder, Parkinson's or mental health problem.
4. I can communicate well e.g. in expression, comprehension, reading, writing, giving speech.
5. I can interact well in the society.
6. I have good cognitive ability e.g. in problem solving, in memorizing, in concentrating, and in safety awareness.

In terms of cognitive and physical functions, the explanation from Rowe and Kahn was adapted to assess the person's cognitive and physical functions. The Functional Independence Measure (FIM) scale was used in order to assess physical and cognitive disability (Tinetti, 1986). This scale is appropriate for older adults and patients. The scale was adapted according to a 6-point rating scale to measure the older adult's abilities. Cognitive function included thinking ability such as communicating, retaining social interaction, problem solving, and concentrating and safety awareness skills.

3.3.4 Life Course Factors: Personal Achievement Profiles, Resilience

Another group is the life course factors which are accumulated over one's lifetime, including the personal achievement profile and resilience. In this study, life

course factors include both the personal achievement profile and resilience, which could later lead to successful aging. It is measured by how older people perceive themselves in their personal and achievement profiles over a life course and also their ability to adjust to change and adversities (resilience).

Personal-achievement profiles: **the researcher of this study develops the scale based on the 2014 survey of the older adults(National Statistical Office of Thailand, 2014) and understanding from the literatures and previous scales.**

To what extent do you feel about your 'personal-achievement' profiles in the past.

1. During my first 18 years of life, I have parents or at least one caregiver with whom I feel safe. There was at least one adult who could provide me with love, understanding, support, and advice.
2. During my first 18 years of life, I have a predictable home routine like regular meals and regular bedtime.
3. During my first 18 years of life, I have beliefs that gave me comfort. I have opportunities to have a good time.
4. I received the education opportunity until the highest level as I desire. (education)
5. I love learning. I have performed well in studying and education. (education)
6. After graduated, I was usually employed or doing the business or working on the projects. (occupation)
7. I have had good, rewarding and meaningful occupations until before retirement. (occupation)
8. My income was always enough for the regular expenses. (income)
9. I have earned good income until before retirement. (income)
10. I have been surrounded by loving family and friends until before retirement. (social status)
11. I have had good social status and can socialize well until before retirement. (social status)

Regarding the personal achievement profile, the researcher decided to develop the scale on her own based on her understanding from the literature. This was to make sure that it included most of the aspects of a person's life: childhood, educational

attainment, occupation and income, and also social status. Normally the demographic profile is considered as a control variable, however, more details were asked in this study focusing more on good personal and achievement profile. The information was asked in both in the demographic part of the study and in the opinion rating scales.

For childhood, the benevolent childhood experiences (BCEs) scale was adapted in to the first four questions. This instrument was developed as a complement to the adverse childhood experiences (ACEs) scale but it focused more on positive early life experiences. The scale can be applied to respondents of different backgrounds and culture predicting the level of stress and psychopathology (Narayan, Rivera, Bernstein, Harris, & Lieberman, 2017). Childhood is an important stage in one's life span. According to studies, both positive and negative experiences in the early life stage can have a long-term influence on the future well-being of a person (Masten & Cicchetti, 2016; Sroufe, Egeland, Carlson, & Collins, 2009). The BCEs scale can measure favorable early life experiences, which can have positive consequences regarding long-term development.

In terms of education, occupation, income, and social status before retirement, this information was asked about both in the demographic part of the study and in the opinion rating scales. The information gained in the demographic section of the study was later converted into scores. This method was based on previous researches, such as that of Kuppuswamy's socioeconomic scale: updating income ranges for the year 2012(Kumar, Gupta, & Kishore, 2012). This scale by Kuppuswamy is one of the crucial instruments assessing family status in urban and peri-urban communities and originated in 1976 and was updated by Mishra and Singh (2003), and Kumar, Dudala, and Rao (2007) . Another updated research is the socio-economic status scale updated for 2017 by Singh, Sharma, and Nagesh (2017). The updated research mostly focuses on income since the educational and occupational variables are pretty consistent and do not vary according to time. However; income ranges could vary in different currency, timing and also other factors.

The researcher of this study adapted the updated Kuppuswamy scale to make it appropriate to the Thailand context.

Resilience: **Adapted from pre-existing scales – a brief resilience scale: assessing the ability to bounce back (Smith et al., 2008)**

1. I tend to bounce back quickly after hard times.
2. I have a hard time making it through stressful events. (*R)
3. It does not take me long to recover from a stressful event.
4. I can confront or snap back when something bad happens.
5. I usually come through difficult times with little trouble.
6. I don't take a long time to get over set-backs in my life.

The brief resilience scale (BRS) was selected to be used in this study as it can measure the ability to "bounce back" or recover from stress, which is close to the definition of resilience. It can also be applied well to the older adult group. In their life experience, this group may have faced adversity, stress and loss in life; and resilience develops over time. The brief resilience scale is a reliable method of measuring the ability to get back from adversities, it is also correlates well with health-related factors (Smith et al., 2008).

Resilience: **Adapted from pre-existing scales – a brief resilience coping scale: BRCS (Sinclair & Wallston, 2004)**

1. I look for creative ways to alter difficult situations.
2. Regardless of what happens to me, I believe that I can control my reaction to it.
3. I believe that I can grow in positive ways by dealing with difficult situations.
4. I actively look for ways to replace the losses I encounter in life.

Another resilience scale chosen to be used is the brief resilience coping skill (BRCS). The BRCS is a 4-item measurement developed to evaluate the behaviors and actions regarding coping with stress (Sinclair & Wallston, 2004). The scale is usually used on people with chronic diseases. Examples include samples of patients with rheumatoid arthritis, which indicated the BRSC scale was valid, reliable and also associates well with psychological well-being (Sinclair & Wallston, 2004). Another research also used the BRCS with systemic lupus erythematosus (SLE), which can fit

well with the model helping doctors to identify low resilient patients that need to develop their coping skills (López-Pina et al., 2016). The scale was selected to be used in this study as most elderly people are familiar with chronic diseases such as diabetes, Parkinson's, and others. The length of the scale is only 4 items, which is brief enough to be used in clinical contexts.

3.3.5 The Control Variables

Some demographic controlled variables were used in the model, such as age, gender, marital status, nationality, highest education level, type of jobs, and level of income. George (1990) explained that people in different groups of income, marital status, years of formal population and others can have significant differences in satisfaction (George, 1990).

1) Age

The first control variable is age. In this study, the "older adult", "older person", "elderly person", "elderly people", "older people", "older population" refer to a person or persons aged 60 years or older. The "very old person", "very old adult", "very old people", "very old population", and the "oldest old" refers to a person or persons aged 80 years or older. The older population in countries is also aging over time, and the age profiles of older populations vary substantially among countries. In 2004, the percentage of the oldest persons was still low at 18 percent of the world's older population (Kinsella & Phillips, 2005). However, the number of the oldest old has risen gradually. Nowadays the older old are one of the fastest-growing groups in many countries. This age profile has been used to find the average age of the samples and also other interesting findings. Additionally, age has been used to classify samples into 3 groups following the survey by the National Statistical Office of Thailand, early group is someone ages 60-69 years old, middle group is someone ages 70-79 years old, and late group is someone ages 80 years old and above (National Statistical Office of Thailand, 2014).

Psychological age or subjective age was inquired about in the questionnaire in order to gain more understanding of how old a person really feels. Using only chronological age might not be sufficient or reliable enough to be an indicator of the health or functioning of older adults, subjective age should be added to better understand the successful aging process (Ambrosi-Randić, Nekić, & Tucak Junaković, 2017).

2) Gender

The second controlled variable is gender. Even the gender profiles of older populations can vary among countries. Additionally, there is a gender imbalance in the older population as women are the majority of older persons in most countries using the sex ratio (Kinsella & Phillips, 2005). The main reason is that men have higher death rates involving greater risk factors, such as alcohol use and occupational hazards. Especially in the more developed countries, the gaps in the sex ratio are higher (United States Census Bureau, 2004). This could be because the educational, occupational, and societal opportunities for women increase higher female survival and health status. This gender profile has been used to find the majority gender of samples and also other interesting findings.

3) Nationality

The third controlled variable is nationality. The nationality profiles of older populations vary among countries. In most countries, the citizens of the country are the majority of the older populations. However, since the onset of globalization; international migration and retirees from other countries have become more common. This national profile has been used for obtaining data on samples.

4) Marital Status and Family Type

The fourth controlled variables are marital status and family type. Since Thailand is a collective culture, it implies that the older adults are living with their family, with someone to take care of them. According to a survey of older persons in Thailand by National Statistical Office of Thailand (2014), more than 60% of older adults were married and living with their spouses (National Statistical Office of

Thailand, 2014). The second group is the widows and persons who live separately from their partners, estimated at 32%. The rest are singles and those living alone. However, the trend of older adults living alone is moving upward. In 1994, only 3.6% of older adults were living alone. Fifteen years later, an estimate 8.6% of older adults lived on their own. The living arrangements were also investigated in the survey of older persons in Thailand. This is important as the practice of older parents living with one or more adult children has been a tradition in Thailand for a long time (Knodel, Teerawichitchainan, Prachuabmoh, & Pothisiri, 2015). Older parents can get support and assistance from their children when needed; however, the normative support from children has declined little by little as years have gone by, from 71% in 1995 to only 55% in 2014 (Knodel et al., 2015).

In the questionnaire, the researcher of this study asked about the marital status-if the older person was single, married or divorced. More details were asked about the family type and the numbers of people living in the family. Since a large number of older persons still rely on support from their children, more details on the numbers of existing children and persons responsible for taking care of the older adults have also been recorded in the present study.

5) Highest Education Level

The fifth controlled variable is highest education level. A higher education level implies about higher standard of living and also higher life expectancy. According to Case, Fertig, and Paxson (2005), educational achievement among young adults also has an influence on successful aging. Austin (1991) also stated that gerontologists should not forget the group that cannot age well when studying successful aging; there are many social factors, such as limited education, that can reduce the chances of successful aging. According to a survey of older persons in Thailand by National Statistical Office of Thailand (2014), around three-fourths of Thai older adults complete only primary school or lower (National Statistical Office of Thailand, 2014). An estimated 10% of older adults have never received an education; however, by laws that all Thai citizens have to get an education. According to Knodel and other Thai researchers, one of the significant influence of older

people's well-being is education as literacy is crucial for job opportunities and also information access (Knodel et al., 2015). The information from this report is in harmony with the idea that the education level of older persons is getting better over time, however, the majority of older persons still have only a basic education, especially the female older adults (Knodel et al., 2015). This educational profile has been used for data on samples.

According to many socioeconomic scales, education level can be ranked from lowest to highest. For example, Kuppuswamy's socioeconomic scale ranked education level from 1 to 7 from the level of illiterate, primary school, middle school, high school, intermediate or post high school, graduate or post graduate, and profession (Kumar et al., 2012). The researcher of this study adapted Kuppuswamy's scale to make it more suitable to the Thai context. Education level was ranked using score from 1-6 in this present study. In Thailand, compulsory education ends at the high school level, and therefore that level has been placed in the middle rank.

6) Type of Job

According to Pruchno, Wilson-Genderson, Rose and Cartwright(2010), successful aging is also affected by a person's characteristics, such as employment status. The sixth controlled variable is the type of job that a person has. Jobs can be related to different levels of income, which may imply different standards of living and also differences in life expectancy. According to a survey of older persons in Thailand by the National Statistic Office-Thailand (2014), an estimated 38% of older adults maintained their jobs especially in the field of business (National Statistical Office of Thailand, 2014). Higher percentage of older adults (almost 50%) informed that they were still working. This profile will be used for the data of samples and also other interesting findings. According to many socioeconomic scales, one's type of job can be ranked from lowest to highest. For example, Kuppuswamy's socioeconomic scale ranks education level from 1 to 10, from the level of being unemployed, being an unskilled worker, a semi-skilled worker, a clerical or shop-owner or farmer, a semi-professional, and a professional (Kumar et al., 2012). The researcher adapted Kuppuswamy's scale to make it more suitable to the Thai context. In the

questionnaire, the researcher asked questions about both occupation before retirement and also the person's job after retirement.

7) Estimated Total Monthly Income and Family Income

Following the survey of older persons in Thailand by National Statistic Office-Thailand (2014), income should include all of the person's sources of income that the older adults receive (National Statistical Office of Thailand, 2014). This means the income from work, business and investment, interest, pension, social security funds, dividends, or other types of profit, and also other financial support.

In most socioeconomic scales, income ranges were ranked from the lowest to the highest. For example, Kuppuswamy's socioeconomic scale ranked the family income level in India from 1 to 12 from the level of under or equal to 100 Rupees, 101-299 Rupees, 300-499 Rupees, 500- 749 Rupees, 750-999 Rupees, 1000-1999 Rupees and over 2000 Rupees (Kumar et al., 2012). The researcher of this present study adapted Kuppuswamy's scale to make it more suitable to the Thai context. The information was obtained from a socioeconomic survey of families during the first 6 months of 2017. The estimated Thai family monthly income was 26,973 THB and 9,392 THB if calculated for each person; however, the average family income was higher at estimated 41,335 THB in Bangkok and Metropolitan areas including Nonthaburi, Pathumthani and Samutprakarn (National Statistical Office of Thailand, 2017). The researcher ranked the score of 1 to 6 for the ranges of individual income and family income of Thai people, where the average income was placed at the middle rank.

Table 3.7 Demographic Questions in the Questionnaires

Gender	**( ) Male ( ) Female**
Age	years old
How old do you feel?	years old
Nationality	
Marital status	( ) Single ( ) Married ( ) Divorced/ Separated ( ) Widow/Widower
Family type	( ) Living alone ( ) Living with friend/ roommate ( ) Living with spouse/ lover ( ) Living with children/ siblings ( ) Living with spouse and children ( ) Living in a big family
Numbers of people living in the family (including the older person)	
Numbers of existing children (including the children, step children, foster children)	
Person who stays/ is responsible for taking care of the older adults	
Highest educational level achieved	( ) Illiterate ( ) Primary School ( ) Secondary School ( ) High School ( ) Vocational School ( ) Higher Vocational School ( ) Bachelor degree ( ) Master degree ( ) Doctoral degree
Occupation (before retirement)	( ) Profession, Semi-profession ( ) Business owner, Entrepreneur, Manager ( ) Government official, Office worker ( ) Trader, Technician, Farmer ( ) Machinery Operator, Factory Worker, Driver ( ) Laborer ( ) Unemployed ( ) Others, please specify_____
Type of job (after retirement)	( ) Paid full-time work ( ) Part-time work ( ) Voluntary work ( ) Entrepreneur/ Investor ( ) Retired/ Stay at home
Estimated monthly income (all the sources of income which the older adults receive)	( ) Below 5,000 Baht ( ) 5,000-10,000 Baht ( ) 10,000- 15,000 Baht ( ) 15,000- 30,000 Baht ( ) 30,000- 50,000 Baht ( ) Above 50,000 Baht

Estimated family monthly income	( ) Below 10,000 Baht ( ) 10,000- 15,000 Baht ( ) 15,001 – 30,000 Baht ( ) 30,001 – 50,000 Baht ( ) 50,001 - 100,000 Baht ( ) More than 100,000 Baht

3.4 **Estimation Technique**

For the data analysis, the quantitative approach was selected to test the hypotheses. Structural equation modeling was used to explore the relationship between the independent variables, and the dependent variables. Statistical Package for the Social Sciences (SPSS) and IBM SPSS Amos version 24 was used for analysis of the results.

According to Bentler (1988), structural equation models represent causal processes that generate observations on multiple variables. Structural equation modeling can convey the causal processes for a study represented by a series of structural equations, such as regression. Additionally, these structural equations can be modeled in a picture, providing a clearer conceptualization of the study. This is consistent with Shumacker and Lomax's (2010) idea; they explained that structural equation modeling can include multiple variables that can fully represent a theory. Structural equation modeling has turned out to be a typical tool in many scientific studies because of the plausibility of theoretical models, and the consequent assessment of goodness of fit and the estimation of parameters of the hypotheses in the model (Hu & Bentler, 1999).

In the social sciences, researchers often study abstract phenomena that cannot be observed directly. These unobservable constructs are called "latent variables" (Ho, 2006). As stated earlier, this study includes latent variables; many of the theoretical constructs are quite difficult to measure or could not be measured directly. Structural equation modeling then was used to explore the path analysis for these latent variables. According to Ho (2006), structural equation modeling is a multivariate technique that combines both factor analysis and path analysis. This can

integrate multivariate techniques into one model. Therefore, it is good for social research which involves with complex and multi-faceted constructs.

Structural equation modeling allows researchers to assess the reliability and validity of a model, to conduct a factor analysis, and run regressions. It also allows variables to be correlated. Structural equation modeling can also account for measurement errors, which means that it can remove and reduce random errors. This is consistent with the notion of Shumacker and Lomax (2010), where it was indicated that structural equation modeling can help researchers fully incorporate the observed scores from the measurement instruments. According to Ho (2006), structural equation modeling is good for a theory-based approach as it "pushes" the researcher to specify, test, and produce an in-depth understanding of the data. Another aspect from Bentler (1988) is that structural equation modeling a widespread methodology for research with require no experiments, or when experimental research is impractical due to ethical considerations. Further, according to Dimitrov (2006), the structural equation modeling methodology has been significantly enhanced over the last thirty years, specifically regarding complex theoretical model analysis. This encouraged the researcher of this study to have confidence that structural equation modeling was suitable method for conducting the analysis in this study.

Using structural equation modeling is not different from other statistical techniques, first the validity and reliability should be checked, and the sample size should be appropriate to provide accurate model fit(Lei & Wu, 2007). SEM is a large sample technique as the sample size should be at least 200 and preferable not less than 400 in case that the observed variables are not multivariate normally distributed, or it can be calculated approximately as 5-20 times the number of factors (Kline, 2005). The larger models usually have greater number of factors, which demand higher numbers of sample size to provide stable parameter estimates. The present study used all the data from 520 completed questionnaires to ensure that the sample size is sufficient.

As indicated before, there are two research questions in the present study.

RQ 1: To what extent are life-course factors related to successful aging in Thailand?
RQ 2: To what extent are current factors related to successful aging in Thailand?

As indicated before, there are seven main hypotheses in the present study. The details of the main hypotheses and sub-hypotheses can be seen below.

H1: A person's personal achievement profile has a positive relationship with his or her current behavior and status.
H1a: A person's personal-achievement profile has a positive relationship with his or her current health behavior.
H1b: A person's personal-achievement profile has a positive relationship with his or her current financial well-being.
H1c: A person's personal-achievement profile has a positive relationship with his or her current social engagement.

H2: Resilience has a positive relationship on a person's current behavior and status.
H2a: Resilience has a positive relationship on a person's current health behavior.
H2b: Resilience has a positive relationship on a person's current financial well-being.
H2c: Resilience has a positive relationship on a person's current social engagement.

H3: Resilience has a positive relationship with a person's health maintenance.
H3a: Resilience has a positive relationship with a person's physical health maintenance
H3b: Resilience has a positive relationship with a person's mental health maintenance

H4: A person's current behavior and status (health behavior, financial well-being, social engagement) have a positive relationship with his or her health maintenance.
H4a: A person's current health behavior has a positive relationship with his or her physical health maintenance.

H4b: A person's current financial well-being has a positive relationship with his or her physical health maintenance.

H4c: A person's current social engagement has a positive relationship with his or her physical health maintenance.

H4d: A person's current health behavior has a positive relationship with his or her mental health maintenance.

H4e: A person's current financial well-being has a positive relationship with his or her mental health maintenance.

H4f: A person's current social engagement has a positive relationship with his or her mental health maintenance.

H5: A person's personal-achievement profile has a positive relationship with his or her successful aging.

H5a: A person's personal-achievement profile has a positive relationship with his or her well-being.

H5b: A person's personal-achievement profile has a positive relationship with his or her self-actualization.

H6: Resilience has positive relationship with successful aging

H6a: Resilience has positive relationship with well-being.

H6b: Resilience has positive relationship with self-actualization.

H7: Health maintenance has a positive relationship with successful aging.

H7a: Physical health maintenance has a positive relationship with well-being.

H7b: Physical health maintenance has a positive relationship with self-actualization

H7c: Mental health maintenance has a positive relationship with well-being.

H7d: Mental health maintenance has a positive relationship with self-actualization.

CHAPTER 4

RESEARCH RESULTS

This chapter presents the data analysis of the life course and current factors determining successful aging in Thailand. The data was from 520 completed questionnaires, which were analyzed by the researcher using IBM SPSS Amos. The first section starts with descriptive analysis and general information of the respondents. The second section includes the validity and reliability analysis. And the last section shows the hypothesis testing and results.

4.1 Sample Demographic

Approximate 650 questionnaires were distributed. The researcher of the present study collected the data by a combination of administering in person, using telephones, mails, and electronic mails. A small number of questionnaires were lost and uncompleted, and were not considered as parts of the sample. At first, this researcher of this study had planned to collect 400 fully-completed questionnaires to achieve 95% confidence level, and 5% precision or significance level. However; after all the questionnaires were sent out, the total 520 fully-completed questionnaires were collected. The researcher decided to use all the 520 copies of questionnaires for analysis because it can contribute to a larger sample size. According to Kline (2015); structural equation modeling is generally a large-sample technique. In a case of insufficient sample size, some statistical estimates may not be precise with a higher chance for technical problems to occur. The sample size also depends on the complexity of the model, the more complicated models with many parameters need a larger sample size in order to achieve more stable results (Kline, 2015). The researcher of the present study used the larger sample size as it is beneficial in terms of having more data and a higher tendency for stable results.

The expectations on survey response rates have been higher in the present days, approximate 60% response rate should be researchers' goal and also journal editors' expectation (Fincham, 2008). In the present study; 520 out of the 650 questionnaires were collected, which reflects 80% response rate in this study. The details of response rate can be seen in table 4.1.

Table 4.1 Response Rate

Regions and province	No. of questionnaires sent out	Actual responses	Response Percentage
Central region: Bangkok and metropolitan areas	200	175	87.5%
Northern region: Chiangmai and nearby provinces	80	60	75%
Northeastern region: Nakhon Ratchasima, Khonkaen and nearby provinces	160	120	75%
Eastern region: Chonburi and nearby provinces	80	60	75%
Southern region: Nakhon Si Thammarat and nearby provinces	80	75	93.75%
Foreigners	40	30	75%

As stated earlier, the researcher of the present study followed the definition of "older adults" in Thai context. From a survey of older adults in Thailand; an older adult is someone who aged more than 60 years: the early group is someone who aged 60-69 years, the middle group is someone who aged 70-79 years, and the late group is someone who aged 80 years old and over (National Statistical Office of Thailand, 2014).

The present study collected the information from older adults, who reside in Bangkok and major provinces. People from various backgrounds participated in this survey. The demographic information of the respondents in this study can be seen in table 4.2.

Table 4.2 Respondents' Demographic Information

Statistic	Qualification	Response	Percent (%)
Gender	Male	194	37.30%
	Female	326	62.70%
Age	60-64 years old	272	52.30%
	65-69 years old	145	27.88%
	70-74 years old	64	12.31%
	75-79 years old	27	5.19%
	80 and above	12	2.31%
Marital Status	Single	68	13.1%
	Married	360	69.2%
	Divorced/ Separated	36	6.9%
	Widow/Widower	56	10.8%
Family	Living alone	36	6.9%
	Living with friend/ roommate	18	3.5%
	Living with spouse/ lover	58	11.2%
	Living with children/ siblings	125	24.0%
	Living with spouse and children	200	38.5%
	Living in a big family	83	16.0%
Highest Education Level achieved	Illiterate	5	1.0%
	Primary School	64	12.3%
	Secondary School	37	7.1%
	High School/ Vocational School	129	24.8%
	Higher Vocational School/ Bachelor degree	213	41.0%

Statistic	Qualification	Response	Percent (%)
	Master degree	63	12.1%
	Doctoral degree	9	1.7%
Occupation (before retirement)	Profession, Semi-profession	70	13.5%
	Business owner, Entrepreneur, Manager	103	19.8%
	Government official, Office worker	165	31.7%
	Trader, Technician, Farmer	104	20.0%
	Machinery Operator, Factory Worker, Driver	34	6.5%
	Laborer	35	6.7%
	Unemployed	9	1.7%
Type of job (after retirement)	Paid full-time work	126	24.2%
	Part-time work	115	22.1%
	Voluntary work	24	4.6%
	Entrepreneur/ Investor	71	13.7%
	Retired/ Stay at home	184	35.4%
Estimated monthly income (all the sources of income which the older adults receive)	Below 5,000 Baht	36	6.9%
	5,000-10,000 Baht	68	13.1%
	10,000- 15,000 Baht	92	17.7%
	15,000- 30,000 Baht	131	25.2%
	30,000- 50,000 Baht	92	17.7%
	Above 50,000 Baht	101	19.4%
Estimated family monthly income	Below 10,000 Baht	39	7.5%
	10,000- 15,000 Baht	74	14.2%
	15,001 – 30,000 Baht	81	15.6%
	30,001 – 50,000 Baht	106	20.4%
	50,001 - 100,000 Baht	116	22.3%
	More than 100,000 Baht	104	20.0%

From table 4.2, larger numbers of the respondents were female; 62.7% were female, and 37.3% were male. This is uniform with a study by Wongboonsin (1998),

which pointed out that there was a higher increase in the female older adults compared to the male older adults. The biggest age segment was the group who aged 60-64 years, at 52.30%, and another group who aged 65-69 years was also a large segment at 27.88%. Regarding the respondents' marital status; 69.2% were married, 17.7% were divorced, and only 13.1% were single. The data also showed that a large number of older adults in Thailand lived with spouse and children, and lived in a big family at 54.5%. Another 38.5% lived with someone; such as a lover, friends or siblings. Only 6.9% reported that they lived alone. In terms of highest education achieved, the largest group attained higher vocational school certificate and bachelor degree at 41%. Regarding the respondents' occupation, the largest group at 31.7% were government officials or office employees, and the second largest group at 20% were traders, technicians, or farmers. After retirement, 35.4% retired at home; however, 24.2% still worked full-time. Lastly, the largest segment at 25.2% had monthly income of 15,000-30,000 baht and 22.3% had estimated family income of 50,001-100,000 baht per month.

Since this study focuses on the concept of successful aging, the respondents' information about well-being and self-actualization can be seen in the table 4.3.

Table 4.3 The Average Score Measuring Successful Aging of Older Adults in Thailand

Questions measuring well-being	**Average score**
1. In most ways, my life is close to my ideal.	4.20
2. The conditions of my life are excellent.	4.33
3. I am satisfied with my life.	4.58
4. So far I have gotten the important things I want in my life.	4.53
5. If I could live my life over, I would change almost nothing.	4.01
6. In general, I feel joyful, positive and contented.	4.63
7. I have a purposeful and meaningful life. What I do in my life is valuable and worthwhile. I have a sense of direction in my life.	4.54
8. I am making progress towards accomplishing my goals. I have achieved the important goals I have set for myself. I can handle	4.43

my responsibilities.	
Questions measuring self-actualization	**Average score**
1. It is not necessary that others approve of what I do.	4.55
2. I can accept my own weaknesses.	4.66
3. I can like people without having to approve of them.	4.29
4. I attempt to analyze and simplify complex domains even they are difficult tasks.	4.18
5. It is better to be yourself than to be popular.	4.64
6. I feel responsible to help other people.	4.61
7. I am not afraid of being inadequate.	4.31
8. I am loved because I give love.	4.68

In the present study, there are two aspects of successful aging, which are well-being and self-actualization. Eight questions were applied to measure well-being; and another eight questions were applied to measure self-actualization. Regarding the well-being, respondents rated themselves high in having sentiment of being joyful, positive, contented and satisfied with their lives with the score of 4.63 and 4.58 out of 6. Conversely, they rated themselves lower in term of if given a chance to live a life over; they will not change anything with the score of 4.01 out of 6. Even though the respondents feel quite satisfied and content with their lives, there is still a clear sign that change is still needed. For self-actualization, respondents rated themselves high in terms of being loved and ability to accept their own weaknesses with the score of 4.68 and 4.66 out of 6. Conversely, they rated themselves lower in terms of their attempt to analyze and simplify complex task with the score of 4.18 out of 6. This is also of interest as the older adults perceived themselves as being loved, can give love and also can accept their flaws; however, their endeavor in completing the complicated job is not high.

4.2 Validity Testing

For content validity, the researcher of the present study looked into each question or item to make sure it was content-related and appropriate to the measurement of successful aging. For construct validity or theoretical validity, IBM SPSS Amos was implemented to prove structural equation model by analyzing the relationships between variables in the proposed model. The questionnaire was hypothetically constructed based on the 7 main hypotheses.

For logical validity or face validity; experts who are also older adults had evaluated each question in the questionnaire whether it was logical or not. As mentioned before that the researcher had conducted a pilot study on 40 older adults, and small issues regarding the understanding of questions were discussed. Some words were deleted, added and adjusted to make the questionnaire logical and suitable for older adults.

For convergent validity, factor loadings were used to evaluate the quality of convergent validity. A factor loading value is a measure of how much the variables contribute to the construct; therefore, a higher factor loading score shows the better quality (Yong & Pearce, 2013). Convergent validity also shows an evidence that the variables within a single construct are sufficiently correlated. Hair, Black, Babin, and Anderson (2010) have given rules of thumb of factor loadings for practical usages; a minimum factor loading was given for different sample sizes-for example, a minimum factor loading of 0.30 needs a large sample size of at least 350. In the present study, the researcher had performed an exploratory factor analysis to check factor loadings. Any factor loadings of variables which are less than 0.3 were removed from the analysis, thereby satisfy the convergent validity for a large sample size of 520.

For discriminant validity, it can prove if a variable differentiates from others or not. In the present study, a pattern matrix was used to explain to which variables are distant. In general, the variables should relate strongly to their own, not to the other constructs. In case there are some variables, which contribute to many constructs (cross-loadings), the cross-loadings should differ by 0.2 and above. In the

present study, the researcher has performed an exploratory factor analysis, and the variables which are cross-loadings were eliminated. This satisfies the discriminant validity as the remaining variables in the present study are all related strongly to only their own constructs. For more details, the pattern matrix can be seen in the Appendix 3.

4.3 Item Reduction

There are many concerns regarding the number of items in the scales. Hinkin (1995) discussed possible problems on the scales which include too many items; such as respondent exhaustion, response bias, and additional time needed in the scale development and administration.

As stated earlier, the researcher had conducted a pilot study on 40 older adults and found a few small issues in the proposed questionnaire. After a pilot study, qualitative arguments with older adult experts were helpful to indicate which items convey similar idea with other items. Some items were eliminated or merged to another item in order to reduce the numbers of items in the questionnaires. However, qualitative arguments cannot be the only criterion for item reduction; therefore, the researcher also used an exploratory factor analysis to reduce a larger number of variables into a smaller number. According to Bartholomew, Knott, and Moustaki (2011), an exploratory factor analysis can reduce measurable and observable variables to fewer latent variables, which share a common variance. The data were analyzed by Statistical Package for the Social Sciences. Former 83 questions were reduced to 48 questions by qualitative arguments with the experts and an exploratory factor analysis. Lastly the researcher also checked the scales' internal consistency using Cronbach's alpha on the remaining constructs.

The exploratory factor analysis provides a factor structure, which groups the variables together based on strong correlations. Factors are rotated for better interpretation achieving an optimal simple structure (Rummel, 1988). Regarding the rotation type, this study used Varimax rotation which it maximizes the sum of the

variance of the squared loadings. According to Yong and Pearce (2013), Varimax rotation can minimize the number of variables with high loadings and also small loadings It is one of the most common rotation types.

Regarding the appropriateness of data, Kaiser-Meyer-Olkin Measure (KMO) Statistics and Bartlett's Test of Sphericity were applied in this study. According to (Kaiser, 1974), KMO cut-off above 0.50 shows that the data is acceptable and suitable for EFA. In the present study, KMO statistics is 0.967, which is considered as marvelous according to Kaiser's rule of thumbs; therefore, it is appropriate for EFA. Bartlett's test of sphericity was used to test hypothesis whether correlation matrix is an identity matrix, which indicates that the variables are unrelated, and therefore inappropriate for structure detection. A small Bartlett's Test of Sphericity value, which is less than 0.05 of significance level, indicates usefulness of a factor analysis on the data. In the present study, a significant result (Sig. <0.01) indicates that the matrix in this study is not an identity matrix, which means the variables relate to one another sufficiently for a meaningful EFA. The SPSS output for KMO and Bartlett's test is presented in table 4.4 as follows.

Table 4.4 SPSS Output for KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.967**
Bartlett's Test of Sphericity	Approx. Chi-Square	21672.626
	df	1128
	Sig.	.000

Regarding the factor structure, the inter-correlations among the variables were tested in the EFA. Pattern matrix was shown that the variables were grouped or loaded into constructs. Factor loadings signify the strength of correlation between the variable and the construct (Kline, 2014). This is consistent with Harman's notion (1976), who explained factor loadings as how much the variables play a part to that construct. This means the higher the factor loading number; the more that variable plays a role in that construct. Most researchers might use some standards for the

minimum on item factor loadings and cross-loadings to retain or eliminate items; however the criteria of deciding the magnitudes of loading and cross-loadings could be researcher's preference. Garson (2010) explained that the strong variables that do not cross load can point to good convergent validity, the rule of thumb is that the factor loadings less than 0.4 are weak and factor loadings more than or equal to 0.6 are strong. According to Hair, Anderson, Tatham, and Black (1995), rule of thumb for factor loadings classifies ±0.3 as minimal, ±0.4 as important and ±0.50 and practically significant.

In the present study, the researcher eliminated the items which have major cross-loadings between constructs. After the item elimination, the pattern matrix in this study demonstrates a clean factor structure with sufficient loadings within constructs and no major cross-loadings between constructs, therefore the convergent and discriminant validity are evident. The factor loadings ranged were above 0.3, thereby satisfies the validity for large sample size of 520. The summary of the item analysis is shown in table 4.5. In addition, the pattern matrix and the list of questions remained in the questionnaire are shown in the Appendix 3.

Table 4.5 Summary of the Scale Length

Measurement	**Original scale length**	**Scale length post item analysis**
Profile	11	5
Resilience	10	9
Health Behavior	5	3
Financial Well-being	7	4
Social Engagement	6	3
Physical Health Maintenance	13	4
Mental Health Maintenance	6	4
Life Satisfaction	5	
Well-being	5	8 *Life Satisfaction and Well-being items were merged as "Well-being".
Self-Actualization	15	8
Total	83	48

Another finding from exploratory factor analysis in this study is that life satisfaction and well-being were highly correlated, and they were grouped together in the pattern matrix. The researcher decided to merge life satisfaction and well-being as one scale to be called as "well-being" because of its broader and more objective meaning.

4.4 **Reliability Testing**

This study assessed the scales by performing Cronbach's alpha reliability analysis. Cronbach's Alpha Coefficient is for testing the internal consistency reliability of the item, which is the Likert scale of more than 3 (Nunnally, 1978). George and Mallery (2003) provided the rules of thumb that Cronbach's alpha of more than 0.9 ($\alpha > 0.9$) is considered as excellent, Cronbach's alpha of more than 0.8 ($\alpha > 0.8$) is considered as acceptable, Cronbach's alpha of more than 0.7 ($\alpha > 0.7$) is considered as good, Cronbach's alpha of more than 0.6 ($\alpha > 0.6$) is considered as questionable, Cronbach's alpha of more than 0.5 ($\alpha > 0.5$) is considered as poor, and Cronbach's alpha of less than 0.5 ($\alpha < 0.5$) is considered as unacceptable.

According to Nunnally and Bernstein (1994), internal consistency reliability is considered acceptable if Cronbach's Alpha Coefficients are greater than 0.7. In the present study, all measures were checked for internal consistency reliability. Coefficients Cronbach's Alpha analysis in this study resulted from 0.745 to 0.965, which indicates good reliability. The results of the Cronbach's alpha reliability coefficients are summarized in Table 4.6.

Table 4.6 Cronbach's Alpha Reliability Coefficients.

Measures	**Cronbach's *a* Reliability Coefficients**
Exogenous Variables	
Profile	0.908
Resilience	0.965
Partially Exogenous and Partially Endogenous Variables	
Health Behavior	0.764
Financial Status	0.887
Social Engagement	0.745

Measures	Cronbach's *a* Reliability Coefficients
Physical Health Maintenance	0.767
Mental Health Maintenance	0.908
Endogenous Variables	
Well-being	0.943
Self-actualization	0.912

4.5 Multicollinearity

Multicollinearity generally occurs when high correlations between two or more predictor factors were observed. Regarding multicollinearity issue in a structural equation modeling, the researcher of this study looked at the correlation matrix to make sure that there is not a large number of too high correlation coefficient ($r \geq \pm 0.9$), which can indicate a problem of multicollinearity (Yong & Pearce, 2013). In the present study, the highest component correlation in the correlation matrix is 0.740; thereby the data in this study has no issue of multicollinearity. Moreover, the issue of multicollinearity issue could be reduced by including the residual correlations when specifying the model, which the researcher has conducted the mentioned process and it is shown in the structural model (Figure 4.2).

4.6 Confirmatory Factor Analysis

After the exploratory factor analysis was conducted to determine the factor structure of the dataset, confirmatory factor analysis (CFA) is a subsequent step in confirming the extracted structure. Before analyzing the path model, it is a reliable manner to determine the overall fit of a measurement model by using a confirmatory factor analysis. The CFA model fit can verify that the measurement variables written can reflect the unobserved constructed. According to Anderson and Gerbing (1988), poor CFA fit requires further refinement of the measurement model and also investigation on the latent-variable structural model.

The researcher of the present study linked the model to the data set and obtained the desired statistics in the results output. For the measurement model, there

are 48 measurement variables to represent 9 constructs. The confirmatory factor analysis (CFA) is shown in Figure 4.1.

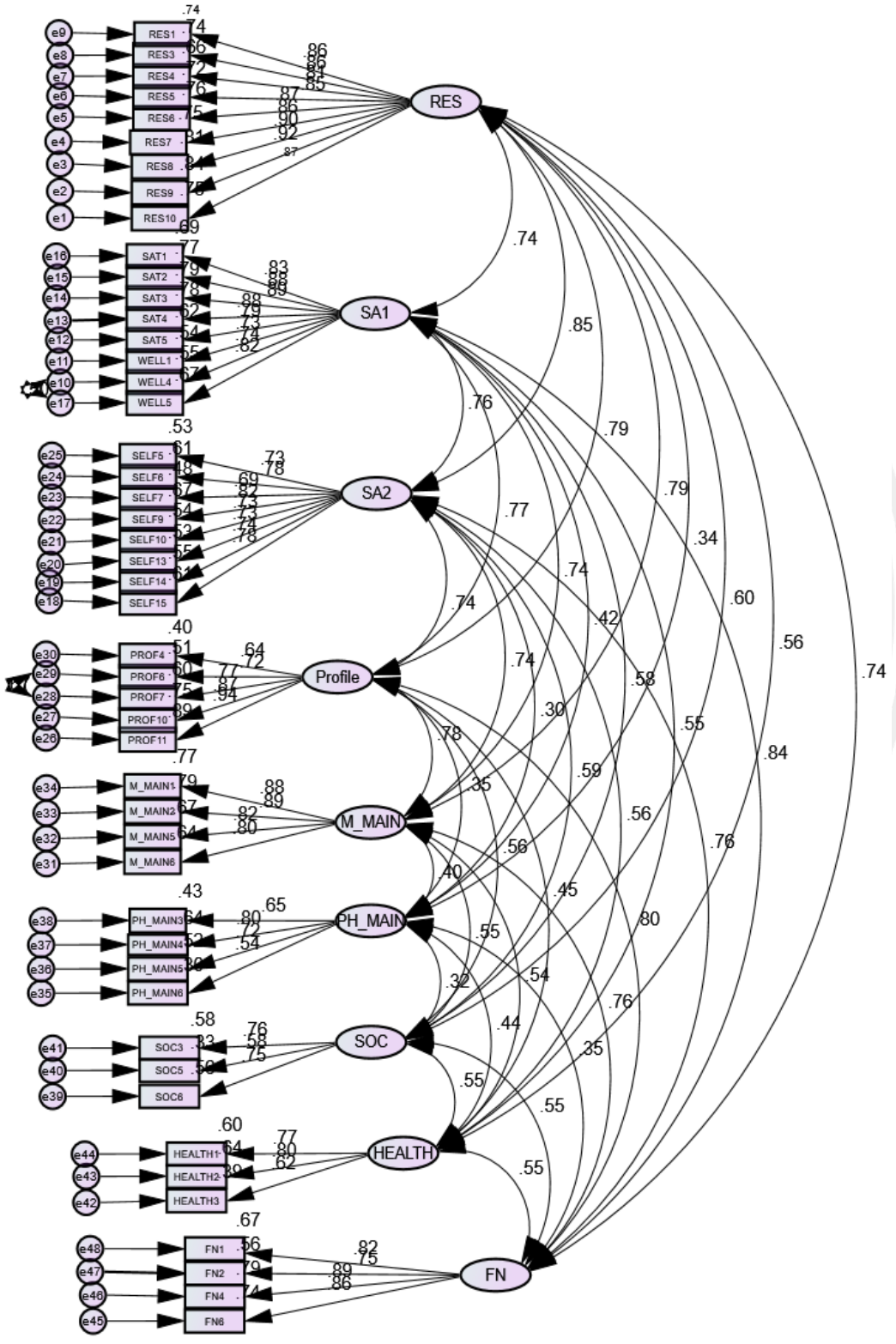

Figure 4.1 Confirmatory Factor Analysis Result

The input covariance matrix, which contains 520 samples, was generated from the proposed model's 48 measurement variables. For the measurement model, there are 39 regression weights, 38 covariances, 57 variances, and 48 intercepts for a total of 182 parameters to be estimated. The model, therefore, has 1042 degrees of freedom (1224-182), and chi-square goodness-of-fit statistic was computed. The chi-square goodness-of-fit test shows that the model did not fit the data well, $x^2\ (N = 520) = 2861.082, p < .05)$. Although the hypothesized model did not fit the observed variance-covariance matrix well by the chi-square test, the researcher used the baseline comparisons fit indices of NFI, RFI, IFI, TLI, and CFI to compare the model-data fit.

One of the general ways to resolve sample size sensitivity and to assess the model fit is fit indices. There are two categories of fit index: absolute fit index and incremental fit index (Gerbing & Anderson, 1993; McCrae & Costa, 1987). Incremental fit indices measure the increase in fit relative to a baseline model, such as normed fit index (NFI) (Bentler & Bonett, 1980), Tucker-Lewis index (TLI) (Tucker & Lewis, 1973), and comparative fit index (CFI) (Bentler, 1990). On the other hand, absolute fit indices measure the extent to which the specified model of interest reproduces the sample covariance matrix, such as SRMR and RMSEA (Steiger & Lind, 1980). It is usually suggested that many indices should be considered at the same time for the analysis.

There are many literatures which discuss the cut-off and the standard of the covariance-based model. Hu and Bentler (1999) recommended the standard for the good model-data fit following those indices: RNI (or CFI) close to 0.95, SRMR close to 0.08, and RMSEA close to 0.06 are considered as good model-data fit regardless of the sample size sensitivity issue (Hu & Bentler, 1999). This is consistent with Awang (2012) and (Hair et al., 2010) that CFI of more than 0.9 reflects satisfactory fit. Regarding TLI, scholars considered TLI at least 0.9 to be satisfactory fit(Awang, 2012; Forza & Filippini, 1998). Regarding NFI, Awang explained NFI of at least 0.9 are considered satisfactory(Awang, 2012); however, Forza and Filippini (1998) considered NFI between 0.8 to 0.9 as acceptable fit. Refer to Awang (2012), RMSEA should be less than 0.08 to be considered as good model-data fit.

In the present study, the baseline comparisons fit indices of NFI, RFI, IFI, TLI, and CFI are close to or exceed 0.9 (range: 0.862 to 0.914). Given the range of the computed baseline comparisons fit indices, the remaining possible improvement in fit for the hypothesized model appears so insignificant (0.086 to 0.138). And with the absolute fit index of RMSEA is less than 0.06 (RMSEA = 0.058), this can reflect a good model-data fit. The model fit for confirmatory factor analysis can be seen in table 4.7.

Table 4.7 Model Fit- CFA

Incremental Fit Index

Baseline Comparison	**NFI Delta1**	**NFI rho1**	**IFI Delta2**	**TLI rho2**	**CFI**
Default Model	0.872	0.862	0.915	0.907	0.914

Absolute Fit Index

RMSEA	**RMSEA**	**LO 90**	**HI 90**	**PCLOSE**
Default Model	0.058	0.055	0.061	.000

To conclude, the CFA model-data fit shows that the measurements of constructs are consistent with a researcher's understanding. The data fit well with a hypothesized measurement model and no further refinement is needed.

4.7 Model Specification

According to Ho (2006); structural equation model is a flexible and comprehensive model that specifies relationships among independent and dependent variables, and it incorporates multiple regression analysis in a single model.

Pedhazur (1997) explained exogenous variable as the factors outside the causal model. Exogenous variables are outside factors which are not affected by other variables in the causal model. On the other hand, endogenous variable are factors which are affected by other variables in the causal model. In the structural equation model; the directional arrows generally represent hypothesized causal directions, and the curved arrows generally represent unexplained covariances. The variables, which

there is no arrow directing to them, are called exogenous variables (similar to independent variables), and the variables to which arrows are directing are called endogenous variables (similar to dependent variables). The latent variables are surrounded by elliptical shapes, and the observed variables are surrounded by rectangular boxes. Lastly, small circular shapes represent residuals (or errors) of the variables.

Regarding the structural equation model in figure 4.2, personal-achievement profiles (PROFILE) and resilience (RES) are exogenous variables. Five constructs are partially exogenous and partially endogenous variable, which include: health behavior (HEALTH), financial Status (FN), social engagement (United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)), physical health maintenance (PH_MAIN), and mental health maintenance (M_MAIN). The remaining 2 variables, well-being (SA1) and self-actualization (SA2) are endogenous variable. The structural equation model is shown in Figure 4.2.

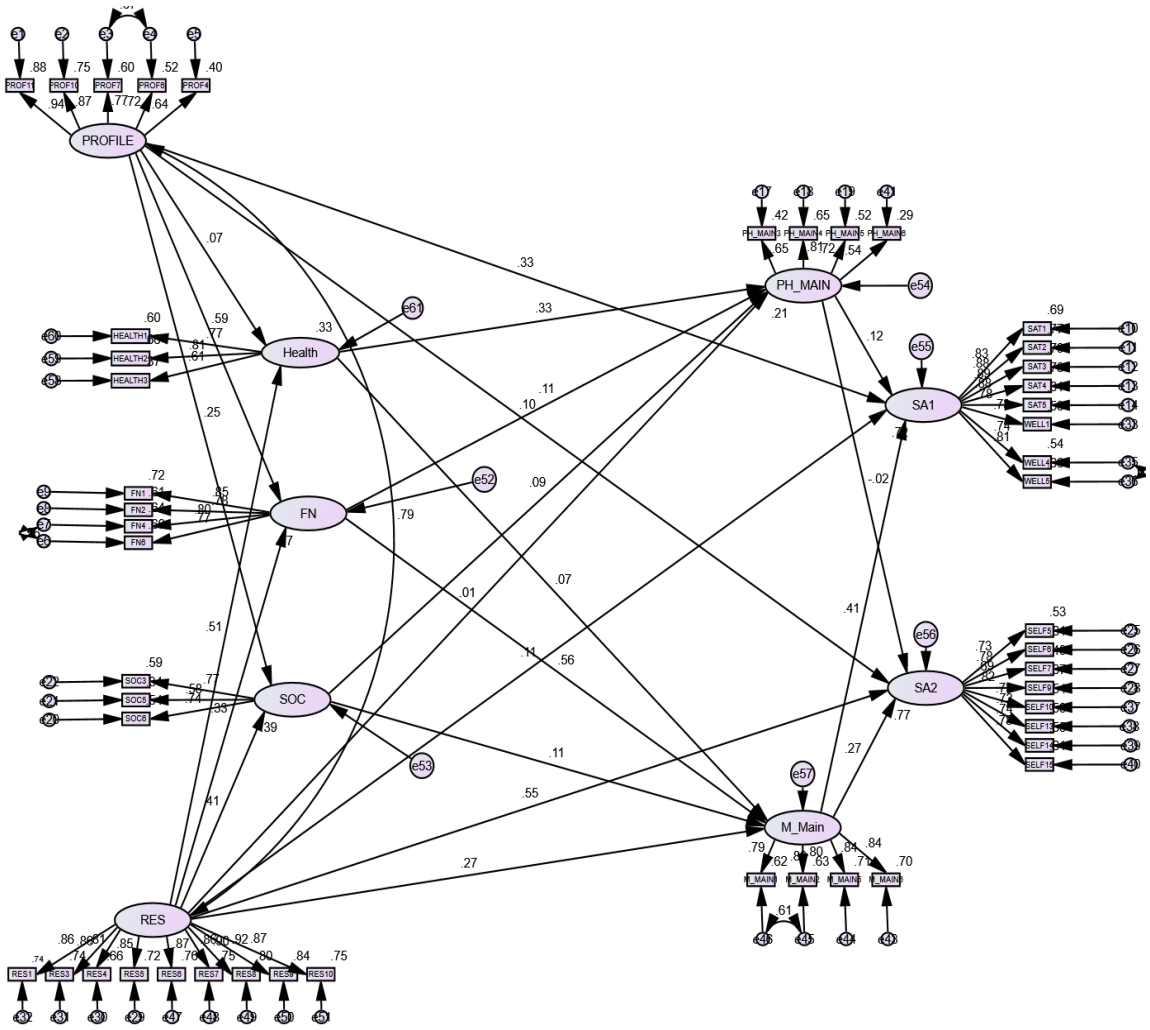

Figure 4.2 Structural Equation Model

4.8 Data Characteristics, Model Fit, and Model Evaluation

It can be reflected that the model fits the data well, when the covariance matrix is equal to or approaches the sample covariance matrix; however, the model fit is tremendously sensitive to sample size (Lei & Wu, 2007). In the present study, the input covariance matrix, which contains 520 samples, was generated from the model's 48 measurement variables. For the measurement model, there are 61 regression weights, 5 covariances, 57 variances, and 48 intercepts for a total of 171 parameters to be estimated. In model, therefore, has 1053 degrees of freedom (1224-181), and chi-square goodness-of-fit statistic was computed. The result indicates that the model did

not fit the data well by the chi-square test, $x^2\ (N = 520) = 2757.650, p < .05)$. Although the hypothesized model did not fit the observed variance-covariance matrix well by the chi-square test, the model fit of hypothesize model are shown by the baseline comparisons fit indices of NFI, RFI, IFI, TLI, and CFI.

As mentioned before about absolute fit index and incremental fit index, the standards of the good model-data fit are similar to the standards mentioned in the CFA part. Some important standards were stated here again. For incremental fit, the CFI value of more than 0.90 is considered satisfactory fit (Awang, 2012; Hair et al., 2010); and for absolute fit, the RMSEA value closed to or less than 0.06 is considered good model-data fit (Hu & Bentler, 1999)In the present study, the baseline comparisons fit indices of NFI, RFI, IFI, TLI, and CFI are all above 0.8 (range: 0.868 to 0.920). These indices compare the fit of the hypothesized model to the null or independence model. With the incremental fit indices ranging from 0.868 to 0.920, the possible improvement in fit for the hypothesized model (range: 0.080 to 0.132) appears as small as to be of little practical significance. And with the absolute fit index of RMSEA is less than 0.06 (RMSEA = 0.056), this can reflect a good model-data fit. More information regarding the model fit is provided in Table 4.8.

Table 4.8 Model Fit

Incremental Fit Index

Baseline Comparison	**NFI Delta1**	**NFI rho1**	**FI**	**Delta2**	**TLI rho2**	**CFI**
Default Model	0.877	0.868	0.920		0.914	0.920

Absolute Fit Index

RMSEA	**RMSEA**	**LO 90**	**HI 90**	**PCLOSE**
Default Model	0.056	0.053	0.058	.000

To conclude, the model fit indices show that the covariance matrix is equal to or approaches the sample covariance matrix. The model can fit the data well.

4.9 Hypothesis Testing

As stated earlier, the statistical technique used in the present study is structural equation modeling. This method is appropriate because it can reflect multifaceted relationship of the latent variables, and also incorporates errors into the analysis. This technique can test the model, the hypotheses, and explain pattern of relationships between the variables.

4.10 Results of Hypothesis Testing

In this section; the results regarding regression weights, standardized regression weights, and squared multiple correlations were explained and discussed.

Regression weights, or the unstandardized coefficient estimates, were generated from maximum likelihood procedure. Critical ratio (C.R.) value and standard error (S.E.) are related with each estimated unstandardized regression coefficient. The critical ratio is a test of the significance of the path coefficients. A significant path can be reflected by a critical ratio that is greater than ±1. And the standard error represents to what extent the predictor variables efficiently predict the endogenous variable. The smaller S.E. reflects more efficiency of the predictor variable. The standardized regression weights (β), or standardized coefficient estimates, reflect the relative relationship between each independent variable and the dependent variable.

Squared multiple correlations is an index of the proportion of the variance of the endogenous variable, which is justified by the predictor variables. In the present study, the squared multiple correlations reflect that that 0.72 or 72 % of the variance of support for well-being (SA1) is accounted for by the variance in variables in this model. The remaining 28% of the variance of support for well-being cannot be explained by the model, and is thus attributed to the residual. The squared multiple correlations show that 0.766 or 76.6 % of the variance of support for self-actualization (SA2) is accounted for by the variance in variables in this model. The remaining 23.4

% of the variance of support for self-actualization cannot be explained by the model, and is thus attributed to the residual.

Regarding the results model, the bold lines represent the significant relationships and the dash lines represent the insignificant relationships with the estimates shown on each line. The result model is shown in Figure 4.3.

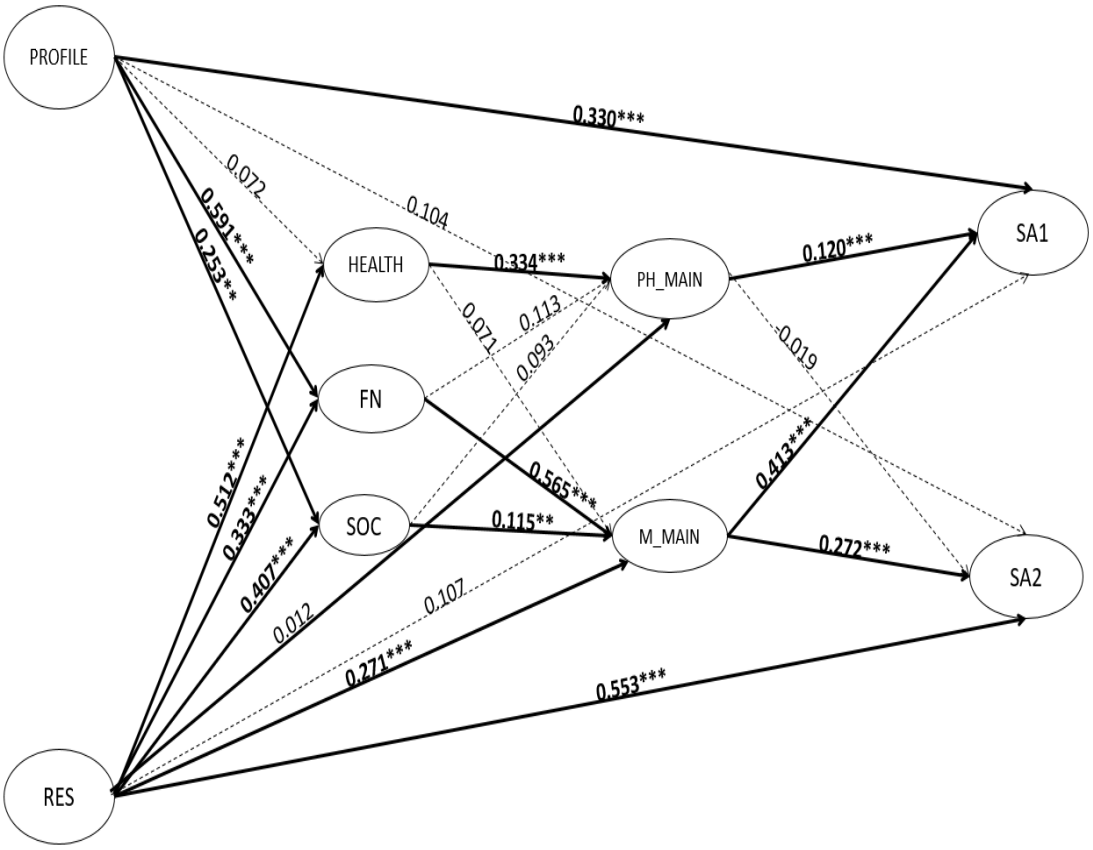

Figure 4.3 Result Model

H1: Personal-achievement profile has positive relationship on current behavior and status.

The testing results of the relationship between older adults' personal achievement profiles and current status-behavior are summarized in table 4.9.

Table 4.9 Hypothesis 1 Testing Result

				Unstandardized Coefficient	S.E.	C.R.	P	β
H1a	Personal-achievement profile	→	Current health behavior	0.051	0.055	0.926	0.354	0.072
H1b	Personal-achievement profile	→	Current financial well-being	0.606	0.058	10.393	***	0.591
H1c	Personal-achievement profile	→	Current social engagement	0.262	0.081	3.221	0.001	0.253

From the hypothesis 1 testing result table, the unstandardized coefficient estimates explain some significant paths by the critical ratio test($> \pm 1.96, p < .05$). Regarding the standardized regression weights, the results indicate that personal achievement profile significantly and positively affects current financial well-being and current social engagement (H1b: β = 0.591, p<.05 & H1c: β = 0.253, p<.05). Thus, the better the achievement profile, the stronger the reported support for current financial well-being and current social engagement. However, there is no relationship between personal achievement profile and current health behavior.

H2: Resilience has positive relationship on current behavior and status.

The testing results of the relationship between older adults' resilience and current status-behavior are summarized in table 4.10.

Table 4.10 Hypothesis 2 Testing Result

				Unstandardized Coefficient	S.E.	C.R.	P	β
H2a	Resilience	→	Current health behavior	0.388	0.063	6.117	***	0.512
H2b	Resilience	→	Current financial well-being	0.369	0.059	6.248	***	0.333
H2c	Resilience	→	Current social engagement	0.456	0.089	5.146	***	0.407

From the hypothesis 2 testing result table, the unstandardized regression weights are all significant by the critical ratio test($> \pm 1.96, p < .05$). Regarding the standardized regression weights, the results indicate that resilience significantly and positively affects current health behavior, current financial well-being, and current social engagement (H2a: β = 0.512, p<.05 & H2b: β = 0.333, p<.05, &H2c: β = 0.407, p<.05). Thus, the greater the resilience, the stronger the reported support for current behavior and status of the older adults.

H3: Resilience has a positive relationship on health maintenance.

The testing results of the relationship between older adults' resilience and health-maintenance are summarized in table 4.11.

Table 4.11 Hypothesis 3 Testing Result

				Unstandardized Coefficient	**S.E.**	**C.R.**	**P**	**β**
H3a	Resilience	→	Physical health maintenance	0.009	0.074	0.120	0.905	0.012
H3b	Resilience	→	Mental health maintenance	0.266	0.059	4.485	***	0.271

From the hypothesis 3 testing result table, the unstandardized coefficient estimates explain a significant path by the critical ratio test($> \pm 1.96, p < .05$). Regarding the standardized regression weights, the result indicates that resilience significantly and positively affects mental health maintenance (H3b: β= 0.271, p<.05). Thus, the greater the resilience, the stronger the reported support for mental health maintenance. However, there is no relationship between resilience and physical health maintenance.

H4: Current behavior and status has a positive relationship on health maintenance.

The testing results of the relationship between older adults' current behavior-status and health-maintenance are summarized in table 4.12.

Table 4.12 Hypothesis 4 Testing Result

				Unstandardized Coefficient	**S.E.**	**C.R.**	**P**	**β**
H4a	Current health behavior	→	Physical health maintenance	0.324	0.068	4.733	***	0.334
H4b	Current financial well-being	→	Physical health maintenance	0.075	0.060	1.246	0.213	0.113
H4c	Current social engagement	→	Physical health maintenance	0.061	0.047	1.315	0.188	0.093
H4d	Current health behavior	→	Mental health maintenance	0.091	0.048	1.903	0.057	0.071
H4e	Current financial well-being	→	Mental health maintenance	0.499	0.053	0.333	***	0.565
H4f	Current social engagement	→	Mental health maintenance	0.100	0.036	2.796	0.005	0.115

From the hypothesis 4 testing result table, the unstandardized coefficient estimates explain some significant paths by the critical ratio test($> \pm 1.96, p < .05$). Regarding the standardized regression weights, the result indicates that current health behavior is the only variable that significantly and positively affect physical health maintenance (H4a: β= 0.334, p<.05). Thus, the better the current health behavior, the stronger the reported support for physical health maintenance. However, there is no relationship between current financial well-being and current social engagement towards physical health maintenance.

The finding is in contrast for mental health maintenance. Based on the standardized regression weights, the result indicates that current financial well-being and current social engagements are the variables that significantly and positively affect mental health maintenance (H4e: β = 0.565, p<.05 & H4f: β = 0.115, p<.05). Thus, the better the current financial well-being and current social engagements, the

stronger the reported support for mental health maintenance. Nevertheless, there is no relationship between current health behavior and mental health maintenance.

H5: Personal-achievement profile has positive relationship on successful aging.

The findings of the relationship between older adults' personal achievement profile and successful aging are summarized in table 4.13.

Table 4.13 Hypothesis 5 Testing Result

				Unstandardized Coefficient	S.E.	C.R.	P	β
H5a	Personal-achievement profile	→	Well-being	0.295	0.051	5.767	***	0.330
H5b	Personal-achievement profile	→	Self-actualization	0.078	0.041	1.915	0.056	0.104

From the hypothesis 5 testing result table, the unstandardized coefficient estimates explain a significant path by the critical ratio test($> \pm 1.96, p < .05$). Regarding the standardized regression weights, the result indicates that personal-achievement profile can significantly and positively affect only life satisfaction and well-being (H5a: β= 0.330, p<.05). Thus, the better the personal-achievement profile, the stronger the reported support for well-being. However, there is no relationship between personal-achievement profile and self-actualization.

H6: Resilience has positive relationship on successful aging

The testing results of the relationship between older adults' resilience and successful aging are summarized in table 4.14.

Table 4.14 Hypothesis 6 Testing Result

				Unstandardized Coefficient	S.E.	C.R.	P	β
H6a	Resilience	→	Well-being	0.104	0.059	1.763	0.078	0.107
H6b	Resilience	→	Self-actualization	0.449	0.052	8.634	***	0.553

From the hypothesis 6 testing result table, the unstandardized coefficient estimates explain a significant path by the critical ratio test($> \pm 1.96, p < .05$). Regarding the standardized regression weights, the result indicates that resilience can significantly and positively affect only self-actualization (H6b: β= 0.553, p<.05). Thus, the greater the resilience, the stronger the reported support for self-actualization. However, there is no relationship between resilience and well-being.

H7: Health maintenance has a positive relationship on successful aging.

The testing results of between older adults' health maintenance and successful aging are summarized in table 4.15.

Table 4.15 Hypothesis 7 Testing Result

				Unstandardized Coefficient	S.E.	C.R.	P	β
H7a	Physical health maintenance	→	Well-being	0.158	0.44	3.626	***	0.120
H7b	Physical health maintenance	→	Self-actualization	-0.021	0.035	-0.605	0.545	-0.019
H7c	Mental health maintenance	→	Well-being	0.408	0.070	5.868	***	0.413
H7d	Mental health maintenance	→	Self-actualization	0.225	0.055	4.072	***	0.272

From the hypothesis 7 testing result table, the unstandardized coefficient estimates explain some significant paths by the critical ratio test($> \pm 1.96, p < .05$).

Regarding the standardized regression weights, the result indicates that physical health maintenance is the variable that significantly and positively affect well-being (H7a: $\beta = 0.120$, $p<.05$). Thus, the better the physical health maintenance, the stronger the reported support well-being. However, there is no relationship between physical health maintenance towards self-actualization.

Regarding the mental health maintenance, the result is different compared to the physical health maintenance. The standardized regression weights indicate that mental health maintenance significantly and positively support for well-being as well as self-actualization (H7c: estimate = 0.413, $p<.05$ & H7d: estimate = 0.272, $p<.05$). Thus, the better the mental health maintenance, the stronger the reported support for well-being and self-actualization.

4.11 **Research Result Conclusion**

The results of the research hypotheses are summarized in table 4.16. First main hypothesis shows that personal-achievement profile partially supported the hypotheses on current health behavior and status. Only current financial well-being and current social engagement can be significantly influenced by a person's personal-achievement profile. There is no connection between current health behavior and a person's personal-achievement profile.

Second main hypothesis shows that resilience supported all the sub-hypotheses in current health behavior and status. Resilience has significant positive influence on current health behavior, current financial well-being, and current social engagement.

Third main hypothesis shows that resilience partially supported the hypotheses on health maintenance. Resilience significantly leads to good mental health maintenance, whereas there is no connection between resilience and physical health maintenance.

Fourth main hypothesis shows that current behavior-status partially supported the hypotheses on health maintenance. Physical health maintenance can be significantly influenced by current health behavior. There is no connection between physical health maintenance and current financial well-being, or current social engagement. However mental health maintenance can be significantly influenced by current financial well-being and current social engagement. There is no connection between mental health maintenance and current health behavior.

Fifth main hypothesis shows that a person's personal-achievement profile partially supported the hypotheses on successful aging. Personal-achievement profile can significantly lead to well-being. However, there is no relationship between personal-achievement profile and self-actualization.

Sixth main hypothesis shows that resilience partially supported the hypotheses on successful aging. Resilience can lead to significantly lead to self-actualization whereas there is no connection between resilience and well-being.

Last main hypothesis shows that health maintenance partially supported the hypotheses on successful aging. Physical health maintenance can significantly lead to well-being, but not self-actualization. Mental health maintenance can significantly lead to all aspects of successful aging, which are well-being and self-actualization.

Table 4.16 Research Result Conclusion

H1	**X**	**Y**	**P**		**β**	**Significantly support H**	**Result**
H1a	Personal-achievement profile	Current health behavior	0.354	Insignificant	0.072	not supported	partially supported
H1b		Current financial well-being	***	Significant	0.591	supported	
H1c		Current social engagement	0.001	Significant	0.253	Supported	

H2	X	Y		P	β	Significantly support H	Result
H2a	Resilience	Current health behavior	***	Significant	0.512	supported	supported
H2b		Current financial well-being	***	Significant	0.333	supported	
H2c		Current social engagement	***	Significant	0.407	supported	
H3	**X**	**Y**		**P**	**β**	**Significantly support H**	**Result**
H3a	Resilience	Physical health maintenance	0.905	Insignificant	0.012	not supported	partially supported
H3b		Mental health maintenance	***	Significant	0.271	Supported	
H4	**X**	**Y**		**P**	**β**	**Significantly support H**	**Result**
H4a	Current health behavior	health	***	Significant	0.334	supported	partially supported
H4b	Current financial well-being	Physical maintenance	0.213	Insignificant	0.113	not supported	
H4c	Current social engagement		0.188	Insignificant	0.093	not supported	
H4d	Current health behavior	Mental health maintenance	0.057	Insignificant	0.071	not supported	
H4e	Current financial well-being		***	Significant	0.565	supported	
H4f	Current social engagement		0.005	Significant	0.115	Supported	
H5	**X**	**Y**		**P**	**β**	**Significantly support H**	**Result**
H5a	Personal-achievement profile	Well-being	***	Significant	0.330	supported	partially supported
H5b		Self-actualization	0.056	Insignificant	0.104	not supported	

H6	X	Y		P	β	Significantly support H	Result
H6a	Resilience	Well-being	0.078	Significant	0.107	not supported	partially supported
H6b		Self-actualization	***	Insignificant	0.553	supported	

H7	X	Y		P	β	Significantly support H	Result
H7a	Physical health maintenance	Well-being	***	Significant	0.120	supported	partially supported
H7b		Self-actualization	0.545	Insignificant	-0.019	not supported	
H7c	Mental health maintenance	Well-being	***	Significant	0.413	supported	
H7d		Self-actualization	***	Significant	0.272	supported	

CHAPTER 5

DISCUSSION AND CONCLUSION

This chapter provides the present study's major findings and discussions. Academic and practical recommendations, the study's limitations and future research suggestions are also delivered after.

5.1 Discussion

This study attempts to investigate the factors which influence successful aging of older adults in Thailand. This makes the structural model consist of many latent variables which include both life-course factors and current factors. The following findings are based on the results of structural equation modeling analysis. The major findings are as follow.

An older adult's current financial well-being and current social engagement are positively influenced by his or her personal-achievement profile. This means the older adults' life history can affect their present stages. Moreover, an older adult's current behavior and status is significantly influenced by resilience. Resilience has a significant positive relationship on one's health behavior, financial well-being, and also social engagement in old age. For example; if a person has high resilience or ability to strengthen from negative situations over a lifetime, there is a positive tendency that a person will have good current behavior and status in one's later stage of life.

Regarding one's health maintenance, mental health maintenance is significantly influenced by an older adult's resilience, current financial well-being, and current social well-being. This means an older person can maintain a good mental health if he or she has good resilience, financial well-being and social engagement. For an older adult's physical health maintenance, it is significantly affected by his or

her health behavior. For example, an older person can maintain his or her physical health maintenance well if he or she has a good current health behavior, such as eating well or exercising regularly.

For successful aging, there are two aspects: well-being, and self-actualization. As stated earlier, life satisfaction was grouped with well-being in this study as they have very high correlation. The result reveals that different factors can significantly affect different aspects of successful aging. A person's personal achievement profile can significantly lead to well-being whereas resilience can significantly lead to self-actualization. Regarding health maintenance, physical health maintenance can lead to only well-being. And mental health maintenance can significantly lead to well-being and self-actualization. Mental health maintenance is considered as an important factor which can lead to all aspects of successful aging.

5.1.1 Discussion on a relationship between personal-achievement profile and current behavior-status

Personal profile is one of the life course factors, which describes a person's life before entering old age in the aspects of education, career, income and social engagement. The researcher of the present study hypothesized that one's life history can predict one's current health behavior, financial well-being and social engagement in later years. For instance; if a person was given opportunities and he or she has put efforts to have good life in the past, a person would also try to maintain good behaviors in his or her old age. To ascertain the first hypothesis, a person's personal profile can lead to a person's health behavior and status in the later years. The research findings show that Thai older adults' current financial well-being and current social engagement are positively influenced by personal-achievement profile (H1b: $\beta = 0.591$, $p<.05$ & H1c: $\beta = 0.253$, $p<.05$). However, there is no relationship between one's personal-achievement profile and one's health behavior in older age.

The finding in this study conforms to the continuity theory as it is expected by the researcher. According to Atchley (2011), people have a tendency to continue the similar activities, behaviors and relationship as they did in earlier experiences.

People would continue what they did, went through, or attained in the past; using adaptive strategies (Atchley, 1971).

The finding of this study regarding financial well-being of older adults conforms to the previous studies, for example education and other cognitive factors are associated with higher accumulated prosperity at older ages (Banks, o'Dea, & Oldfield, 2010; Banks & Oldfield, 2007).

The finding of this study regarding social engagement of older adults could give a different aspect from the previous classic statements. Cumming and Henry (1961) explained that older adults would voluntarily disengage from society and face social isolation in their later lives. This portrayed a person's old age as one's lonely time with little or no roles. The finding in this study is different from Cumming and Henry's view that one's social engagement in later stage of life can be positively motivated by one's personal-achievement profile. Many scholars (Atchley, 1989; Havighurst et al., 1968) also challenged Cumming and Henry's belief by explaining aging as an identity struggle, older adults would try to maintain their social roles and activities, even when they face with changes in their later lives.

Lastly, the present study's finding shows that there is no relationship between one's personal-achievement profile and one's health behavior in old age. This partly conforms with a previous study that the negative early and mid-life health behaviors could be counterbalanced by the positive health habits in later life (Pruchno, Wilson-Genderson, Rose, et al., 2010; Schafer & Ferraro, 2011).

5.1.2 Discussion on a relationship between resilience and current behavior-status

Resilience is an ability to adjust when one has faced with adversities, and finally gained positive outcomes from the situations. It can be viewed as a personality trait or a process which could be developed over time. Regarding the older adult group, resilience is still widely discussed as the older adults could face various aspects of diversities. The researcher of this study hypothesized that the good health

behaviors, financial status, and social engagement in old age could be influenced by one's personality or ability to develop resilience overtime. To ascertain the second hypothesis, a person's resilience can lead to a person's health behavior and status in old age. The research findings show that resilience has a significant positive relationship on one's health behavior, financial well-being, and also social engagement in later life (H2a: $\beta = 0.512$, $p<.05$ & H2b: $\beta = 0.333$, $p<.05$, &H2c: $\beta = 0.407$, $p<.05$).

The finding in this study conforms to continuity theory, particularly on the adaptive strategies. Older adults can adapt themselves, when they face various aspects of loss such as functional loss or socio-economic loss. Bonanno (2012) explained resilience as a personality trait after one faces momentary suffering. Resilience is comparable to adaptability, when one faces difficulties, however can gain positive learning outcome. This means that persons with good resilience have better tendency to adjust well and remain positive outlook even when they enter old age.

There is also another aspect which views resilience as a process rather than a personality trait. The American Psychological Association and scholars viewed resilience as an adaptive process, which can be developed over time (Luthar & Cicchetti, 2000; Manning, 2013; Ong, Bergeman, & Boker, 2009). However, there are some factors which can help developing or improving resilience, the example is strong social networks (Lamond et al., 2008; Netuveli, Wiggins, Montgomery, Hildon, & Blane, 2008).

5.1.3 Discussion on a relationship between resilience and health maintenance

Health is one of the unique factors which will decline as age rises. Other factors in life such as wealth, reputation, social connections, experiences, and more could be accumulated over lifetime. Resilience in older adults reflects one's skill of adjusting to negativities and learning affirmative lessons. The researcher of the present study hypothesized that personality or ability to develop resilience could predict good physical and mental health maintenance in the older adults. To ascertain

the third hypothesis, a person's resilience can lead to a person's health maintenance. The research findings show that mental health maintenance is significantly influenced by resilience (H3b: $\beta = 0.271$, $p<.05$).

The result in this study partly conforms to previous finding by Herrman and others (2011) that some persons can endure and survive hardships without developing mental health problem. Many studies have proved that high resilience in later life can bring beneficial consequences, including reduced depression (Hildon, Montgomery, Blane, Wiggins, & Netuveli, 2009; Jeste et al., 2013; Shen & Zeng, 2011; Smith & Hollinger-Smith, 2015). Some other studies also showed that better social support can also strongly link to better physical and mental health (Montross et al., 2006; Seeman et al., 2001). The study by Nygren et al. (2005) also concluded that as a person gets older, he or she is not frailer in terms of resilience and other aspects in life, compared to the younger persons. The mentioned study tried to show the link between resilience and one's mental health, however it showed a significant relationship only in the old women not the old men (Nygren et al., 2005).

The research finding differs from some studies to a certain degree. For example, most negative life events would negatively affect a person's physical and mental health, and eventually develop depression or anxiety (De Beurs et al., 2001; Hsu, 2011; Kessing et al., 2003). The research by Nygren et al. (2005) also showed that mental health differs between old men and women.

5.1.4 Discussion on a relationship between current behavior-status and health maintenance.

Health is the unique factor which has to be maintained when age rises. The current health behavior, financial status and social engagement could affect both physical and mental health maintenance. For instance; if the older adults have good health behavior such as eating good food and exercise regularly, this will result in maintaining good health. The researcher of this study believes that health maintenance can be influence by the current behavior and status of the older adults. To ascertain

the fourth hypothesis, a person's current behavior-status can lead to a person's health maintenance.

The research findings show that mental health maintenance is significantly influenced by current financial well-being, and current social well-being (H4e: $\beta = 0.565$, $p<.05$ & H4f: $\beta = 0.115$, $p<.05$). And Physical health maintenance is significantly influenced by current health behavior (H4a: $\beta = 0.334$, $p<.05$).

Starting with physical health, the finding in this study conforms with the study by Baltes and Reichert (1992). The study showed that good diet and proper exercise can be delayed or even turn over the health decline (Baltes & Reichert, 1992). More details are in given in previous studies that negative early and mid-life health behaviors could be counterbalanced by the positive health habits in later stage of life (Pruchno, Wilson-Genderson, Rose, et al., 2010; Schafer & Ferraro, 2011).

For mental health, the finding partly conforms to the previous study done by Kessing, Agerbo, and Mortensen. The study shows that inadequate financial supply for daily payments or being unemployed can have negative impact on health (Kessing et al., 2003). Also, the study done by Parslow, Jorm, Christensen and Mackinnon (2006) has shown that the persons who engage with activities will have more tendencies to gain benefits for better cognition and psychological health. The current study also partly conforms with many studies as follow. Those studies explained that social engagement is connected with better health which includes both physical and mental functioning (Everard et al., 2000; Reuben et al., 2003; Seeman et al., 2001). There are studies showing evidence that volunteering can enhance both physical and psychological well-being (Borgonovi, 2008; Siegrist, Von dem Knesebeck, & Pollack, 2004).

Lastly, the present study's findings do not reveal strong correlations between physical and mental health maintenance. For more details, it also indicated that physical health and mental health are influenced by different factors. The findings are contrast with previous studies which showed strong relationship between physical and mental health maintenance. For example, Athletic people, both young and older

adults, show better cognitive performance compared to people who are inactive (Spirduso & Clifford, 1978), Moreover, Bowling and Browne (1991) and Krause (1990) explained that physical health is undeniably tied to mental health at any age.

5.1.5 Discussion on a relationship between personal-achievement profile and successful aging.

The concept of successful aging should come from the perspective of the older adults. In this study, it includes one's well-being and self-actualization. A person's personal profile is one of the life course factors, which describes one's life before entering old age. The researcher of this study hypothesized that one's life history can be a predictor of one's successful aging. For instance; if a person was given opportunities and put efforts to have good life in the past, a person would have good well-being and is self-actualized in their old age. To ascertain hypothesis five, a person's personal profile can lead to successful aging. The research findings show that personal achievement profile can significantly lead to successful aging in the aspect of life-satisfaction and well-being (H5a: $\beta = 0.330$, $p<.05$).

The findings conform to several previous studies. The finding explained by Case, Fertig and Oaxson (2005) showed that educational achievements in younger years positively affect successful aging. This is consistent with a study by Crabtree (1967) that education is a foundation of successful aging; and persons with an aspiration to learn should continue in education even in their old age. Furthermore, Kubzansky, Bergman, Glass and Seeman (1998) also concluded that lower education level attainment contributes to less contentment and poorer biological circumstances. Depp and Jeste (2006) explained that 44% of the studies they reviewed illustrate that higher education connects with successful aging. Regarding the job and income, a study by Pruchno, Wilson-Genderson, Rose and Cartwright (2010) demonstrated that a person's characteristics, such as occupation, could positively influence successful aging. Some studies showed the connection of a person's work and one's higher well-being(Ross & Bird, 1994; Ross & Mirowsky, 1995), however some findings displayed no connection (Herzog, House, & Morgan, 1991). Regarding the social engagement, it has been viewed by the gerontologists as important in maintaining

older adults' physical and mental well-being as well as a key component of successful aging (Rowe & Kahn, 1998).

5.1.6 Discussion on a relationship between resilience and successful aging.

The concept of successful aging from the perspective of older adult in this study includes well-being and self-actualization. Resilience is one of the life course factors, which describes a person's personality or ability to adjust to negativities and gaining positive outcome. The researcher of the present study hypothesized that the older adult's successful aging can be predicted by that person's resilience. For instance; if a person has high resilience, a person will have good well-being and be self-actualized in their old age. According to research by Myers (2003), the older adults who predictably aged well, were resilient in reacting to stress, and changes. To ascertain hypothesis six, a person's resilience can lead to successful aging. The research findings show that resilience can significantly lead to self-actualization (H6b: estimate = 0.553, $p<.05$).

The finding conforms to the previous findings done by Jeste and other scholars (2013) which illustrated that resilience is one of the characteristics that can lead to successful aging. This is in harmony with a study done by Wagnild (2003), which as well focuses on resilience as a contributor for successful aging. Moreover, a study by Jeste et al. (2013) showed an association between the older age and higher successful aging, using the critical role of resilience and depression. Resilience is one of the factors which has significant relationship on self-rated successful aging (Jeste et al., 2013).

5.1.7 Discussion on a relationship between health-maintenance and successful aging

Health maintenance is an ability to maintain both physical and mental health when age rises. The concept of successful aging in this study includes well-being and self-actualization. The researcher of this study hypothesized that a person's health maintenance can predict one's successful aging. For instance; if a person had good

health maintenance, a person would have good well-being and be self-actualized in their old age. To ascertain hypothesis seven, a person's health maintenance can lead to successful aging. The research findings show that there is a person's physical health maintenance can only lead to life satisfaction and well-being (H7a: β= 0.120, $p<.05$). And mental health maintenance can significantly lead to both groups of successful aging, well-being as well as self-actualization (H7c: β = 0.413, $p<.05$ & H7d: β = 0.272, $p<.05$).

Starting with physical health, the finding conforms and relates to many studies. According to Marquez et al. (2009); health is one of the important factor leading to successful aging, their study showed that there were numbers of older adults with poor health, such as living with chronic diseases, and that reduced the tendency of successful aging. Hsu (2011)also explained in a similar way that chronic disease is one of the health risks in preserving a successful aging life.

For mental health, the finding conforms with Jeste and team's report. Reducing depression was one of the factors, which contributed significantly to self-rated successful aging (Jeste et al., 2013). The finding also partly conforms with Kahana and others' study that chronic stress is one of the factors which reduce the chance for successful aging (Kahana et al., 2012). According to research by Smyer and Qualls (1999), the older persons who generally age well, experience lower occurrences of mental illness compared to younger people. Moreover, there are many studies about cognitive functions in older adults which could be partly related. Many mental disorders are associated with disrupted cognitive functions. A decline in cognitive function is a sign of aging and a prediction of mortality(Dewey & Saz, 2001). Cognitive ability is as important as physical ability to determine a person's independence in later life (Greiner, Snowdon, & Schmitt, 1996).

For overall health and health maintenance, the finding in this study also party conforms to some previous researches. M.A. Smith and others (1991) explained that perceived health or self-rated health is one of the important forecasters of life satisfaction in later life.

5.2 **Theoretical Suggestions**

Previous studies have paid attention to only one-dimensional aspects either biomedical or social factors leading to successful aging. To illustrate; a study by Rowe and Kahn's (1987; Rowe & Kahn, 1997) is one of the widely-used model regarding successful aging. However, Rowe and Kahn's model has received many critics that it focused only on biomedical health, and ignored older persons' insights (Phelan & Larson, 2002; Strawbridge et al., 2002). Riley and Bond (1983) also mentioned that aging process involve not only biological changes, but also social and psychological changes. This is consistent with Bowling (2007), who explained that successful aging can occurred because of many factors. Successful aging was also viewed as a life-long process over a lifetime (Ryff, 1982, 1989). The researcher of the present study agrees that there is a need for more conceptual view on successful aging.

This study contributes to the literatures by studying the issues of meaning, conceptualization and also predictions under the subject of successful aging. The researcher empirically investigated life course factors and current factors following continuity theory. The well-being and self-actualization were assessed to measure successful aging. In this study, life satisfaction was grouped together with well-being due to its high correlations. The new construct was called as well-being because of its broader and more objective meaning. The current factors (current health behavior, financial well-being, and social engagement); the life course factors (personal-achievement profile and resilience), and physical and mental health maintenance were incorporated into the proposed model. The methodology was presented by continuity theory and aimed to test seven hypotheses. The activity theory explains that older adults will try to remain the same activities, behaviors, and relationships as they did earlier in lives using adaptive strategies. This theory can support the proposed model that there are life course factors which older adults have accumulated and will continue in their later lives. When the older adults face health decline, they can adapt and maintain their health, which later leads to successful aging. Successful aging will not just happen when someone enters old age; therefore, more studies and research are needed to prepare current and future older adults to age successfully.

This study contributes to the literatures by theoretically develop a conceptual model and then empirically examining the relationships among current factors, life course factors, health maintenance and successful aging. The findings support the researcher's notion that there are important factors, resilience and mental health maintenance, which can influence successful aging.

5.3 Managerial and Policy Implications

The findings in the present study are potentially beneficial for managers and decision makers, especially for those who are in contact with older adults. The structural equation model provides useful information for managers to enhance successful aging rate through life course factors, current factors and health maintenance. Practitioners can use the findings to extend research on successful aging.

5.3.1 Managerial Implications

An aging population is an important issue for Thai society in the present day. Larger numbers of people are entering this age group and demanding good later lives following the concept of successful aging. The Thai government has established the National Committee of Senior Citizen, and the government's current policies and programs are in line with the second national plan for older persons (2002-2021). Even the Thai government has already started implementing the plans for an aging population; commitments from all sectors including both private and public organizations are still limited. There are many stakeholders, who are in touch with older adults; such as families, experts, hospitals and health-related institutions, schools and educational-institutions, companies and other related sectors. Therefore, the researcher of the present study made the following recommendations for managerial implications.

When the governmental policy for older adults is implemented, organizations in society should support and follow. Educational institutions; such as schools,

colleges and universities, and health-related institutions; for example hospitals, should introduce a "knowledge center" for older adults and future generations to ensure successful aging. Managers in the related sectors can consider providing academic and community services under the topic of successful aging, in order to promote knowledge to the general public. The findings from this study show that Thai older adult's current financial well-being and current social engagement are positively influenced by a person's personal-achievement profile. Also, a person's personal achievement profile can significantly lead to well-being in later stages of life. Families, experts, and managers in the related sectors should change the idea of starting to prepare for a good old age in later stage of life; successful aging should be managed and planned. Having a successfully aging person reflects that a person needs to have a good profile or good life history. This means a person should be supported with the opportunities for good education, career, and social engagement since one's youth. This will give good tendency that when a person subsequently becomes an older adult, he or she can remain good financial, social statuses, and well-being.

Moreover, the findings from this study also show that resilience has a significant positive relationship with a person's health behavior, financial well-being, and also social engagement in old age. Also, resilience significantly leads to self-actualization. There are some previous studies which could support the present study's findings. From previous studies, one's resilience does not decline with age, and this shows that the older adults can be as resilient as when they are younger (Demakakos, Netuveli, Cable, & Blane, 2006; Gooding, Hurst, Johnson, & Tarrier, 2012; Nygren et al., 2005). Therefore; a person should be trained to be resilient when faced with adversities from a younger age, as it can become a person's personality trait. And another study by Blane, Wiggins, Montgomery, Hildon, and Netuveli (2011), showed that resilience is significantly linked with social interaction; policies such as free bus passes, or part-time work for older adults can help encouraging resilience as it gives more opportunity to engage with the community. From the present study's findings and supports from previous studies; families, experts, and managers in the related sectors can consider more projects which support resilience in older adults. For example, a person should be taught since a young age to accept and

deal with changes and adversities with a positive outlook. Activities and opportunities for social engagement such as exercise activities and volunteer works, can give more opportunities to older adults to be active within their community, which promotes resilience in older adults. This will give good tendency that when a person with good resilience becomes an older adult; he or she can remain good health behavior, financial, social statuses, and become self-actualized.

Lastly, the findings from this study show that physical health maintenance can lead to well-being. And mental health maintenance can significantly lead to all aspects of successful aging, well-being and self-actualization. Families, experts, and managers in related sectors should understand older adults' capabilities, limitations, and also their cognitive and motivational changes. Therefore, they can plan and implement effective management practices for older adults. From this study's findings, projects which promote good health maintenance can give more potential for older adults to have good well-being and self-actualization. The examples include health-checking and health-insurance services, exercise opportunities, work-life balance policy etc. The designs of facilities in workplaces and community should be older adults- friendly to provide safety and convenience. And there should be mental health interventions in the community which include the programs to prevent and reduce older adults' stress.

5.3.2 Policy Implications

The Thai government's expenditure pertaining concern the older adults; for example the allowance for the elderly, government pension fund, and the social security fund, has been increasing in recent years with the tendencies to rise even more in the future(Thailand Development Research Institute, 2012). Although it can be observed that the government already tried to solve the aging population issues by supporting the financial aids, more various supports are still needed. The data from older adults in Thailand helped the researcher better understand the situations and the problems in policy planning and implication. Therefore, the researcher of the present study made the following recommendations.

Since the concept of successful aging was originated and developed in the western countries, some aspects need to be adjusted when planning and implementing said policy in Thailand. The government should use a proactive strategy to plan for current and future older adults to achieve successful aging. As mentioned before that the view on successful aging should not be one dimensional, but more of the holistic view involving the opinion of older adults themselves. There are many stakeholders involved such as older adults, families, related sectors and older adult experts. They should be given the opportunities to participate in setting and implementing the policies for older adults. The organizations responsible for older adults should have full authority to report directly to the Prime Minister, to solve problems and to synchronize with other related units to move in the same direction. Sufficient personnel and financial resources should be provided to carry out the procedures.

As stated earlier about the findings of the present study, resilience and mental health are important factors which could contribute to successful aging. The implications regarding resilience might include social support programs and activities which practice and improve resilience for older adults. The related organizations should have strategies to prepare for challenges and also helping those already experienced with adversities. Even resilience is not something which could be taught or given to someone, policy makers should see the potential of promoting resilience as a way to help older adults coping difficulties in later stage of their lives.

The policy implications regarding mental health maintenance could give more tendencies for older adults to access all aspects of successful aging which are well-being and self-actualization. Regarding older adults' mental health, older people may experience many stressors which are more usual in the later lives such as the reduced function, health problem, loneliness, or other losses. Myers and Schwiebert (1996) described that older adults are one of the unique group in population who are underserved by counseling services. In addition to that, another study explained that estimate one-thirds of this older adult group were faced with mental health issues such as anxiety, depression and other disorders which needs professional involvement (Smyer & Qualls, 1999). The course of action to improve this situation may include designing sustainable policies on long-term care and training health professionals in

providing care for the elderly. Health professionals should learn or obtain training in gerontology issues as part of their career to understand more about the needs of the older adults. The older adults should receive early diagnosis for mental problems in order to promote early and optimal treatment.

Regarding the findings from the present study, good current financial well-being and social engagement can positively influence good mental health maintenance. Regarding the financial well-being, Thai government has made the social pension policy for old age allowance in 2009 (Jitsuchon, Skoufias, & Wiener, 2012). This can provide some income security for older persons; however, the amount of income is quite low. There are still opportunities for the organizations to develop and improve old age pension policies, system and benefit level. Regarding social engagement, more full-time, part-time job opportunities, volunteer works, and other activities should be offered to older adults giving more opportunities for older adults to engage with the community.

5.4 **Conclusion**

As stated earlier, the present study has four main objectives. The first objective was to develop a model of successful aging in holistic view including life course factors and current socio-economic factors. The second objective was to apply continuity theory to the proposed model. The third objective was to understand and study older adults in Thailand. The final objective was to give idea for policy, project, or program recommendations regarding successful aging for governmental or private organizations.

The proposed model was analyzed by path analysis implementing structural equation modeling to assess the theoretical constructs, to validate the measures, and to assess the relationships in the causal model. A survey questionnaire was used in quantitative research approach to collect data from 650 older adults in Thailand, and 520 completed responses were returned.

The statistical results confirmed the proposed model and supported the hypothesis testing. IBM SPSS Amos software was used to evaluate the relationships between latent variables. The findings were that there are important factors which could positively influence successful aging directly and through health maintenance. The details were given in the major findings. Additionally, the recommendations for policy, project, or program recommendations were given in managerial and policy implication part.

5.5 Limitations of the Study

In this study, there are a few research limitations. First, the data collected is cross sectional data. Due to time and budget limitations, the data collection period were only 5-6 months. According to Maxwell and Cole (2007), cross sectional data is difficult to validate the direction of causality. Moreover, some concepts in this study could be better understood using longitudinal study, which needs to follow individuals in many years of their lives. Using the quantitative method itself, the generalizability of the findings is higher than qualitative method. The results were based mainly from the data obtained using fixed scales which could over looks critical features of human phenomena, such as feeling and emotions (Hathaway, 1995).

Secondly, the successful aging research in Thailand is not well-known. Most of the literatures found and used in this study were from non-Thai researchers. Some of the concepts were based on the westerners' context. Moreover, the self-evaluated questionnaire may create bias or inaccuracy in the measurement. Most questions were attitude-measurement scale on the health aspects. Some respondents might not answer accurately or honestly due to social desirability bias. With some technical vocabularies, the unconscious representation bias could also occur. Also, some people want to keep their information confidential. Many questions were about the respondents' personal information; they may overrate or distort the actual answer. The only primary sources to access this type of information are through questionnaires. Even the researcher tried to make the questionnaire as friendly, simple and confidential as possible for the honest answers; some respondents still requested

further explanations. Additionally, there were a small number of respondents who refused to participate in this study due to the length of questionnaires, and the concerns about giving away their personal information.

Lastly, the small-sample size from the non-probability sampling could limit the generalizability of the results. The researcher of this study used quota sampling, which is a non-probability sampling technique, in selecting the respondents. Most of the respondents were from the metropolitan Bangkok area, large cities and some selected rural area. This disproportionately sample group might not fully represent the older adults in Thailand. With limited time and budget constraints, the results revealed that large percentages of respondents in this study were the early group of older adults who have quite high income. The early group of older adults, 60-70 years of age, is still active and easy to access. They were willing to participate when asked for help to do the questionnaires. There was a little focus on very old adults who aged more than 70 years or 80 years. And regarding a large number of high income respondents, there could be higher tendency that this group is successful agers because they have sufficient resources and supports. Since there might be some differences for older adults with different age and income, this sample group still may not represent the actual factors of all older adults in Thailand.

5.6 **Future Study**

Some limitations in this study were mentioned; however, it is at the same time giving the opportunities for additional researches to explore in different views. As successful aging is becoming more essential for each individual in all age groups, including the older adults and the one entering the age group, future researchers can conduct more studies in this field.

Firstly, the present study focused only on the older adults who aged 60-80 years with less number of the very old persons (80 years old and above). This was due to the budget and time constraints. The future researchers may use bigger samples; or

focus more on the very old persons, which are the growing segment of the older adults.

Secondly, this research emphasized only on quantitative part; this could be the research restraint, but at the same time leaves the gap for additional research to investigate in qualitative view. The quantitative approach could be efficient, practical and proper as it draws the representative sample from the population (Marshall, 1996). However, the qualitative research tools, such as observation and interview, could give more details in understanding human's need, behavior, happiness and more. Qualitative study could be used with different type of research questions especially the complex humanistic issues.

Additional research could also apply in larger-scaled perspective in order to increase the tendency of successful aging, for example; researches on older adults in other countries, especially those facing with rapid aging population problem. Other researches which contribute to the body of knowledge on older population are also encouraged as it will be useful for professionals working with older adults and the society.

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APPENDICES

Appendix 1: Questionnaire in English

This questionnaire was designed to collect information on the holistic view on successful aging in Thailand. It is a part of dissertation by Ms. Suphicha Booranavitayaporn, a Ph.D. student at international college of NIDA, Thailand. This is an independent research and all your information will be remained private and confidential. Thank you.

Note: The scales used in this questionnaire are 6-points scale. Strongly disagree is coded as 1, disagree is coded as 2, slightly disagree is coded as 3, slightly agree is coded as 4, agree is coded as 5 and strongly agree is coded as 6.

To what extent do you feel about your 'life' (Life Satisfaction)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
1. In most ways my life is close to my ideal.						
2. The conditions of my life are excellent.						
3. I am satisfied with my life.						
4. So far I have gotten the important things I want in my life.						
5. If I could live my life over, I would change almost nothing.						
To what extent do you feel about your 'life' (Well-being)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
6. In general, I feel joyful, positive and contented.						
7. I feel excited and interested in things. I become absorbed in what I am doing. Sometimes I lose track of time doing something I enjoy.						
8. I am satisfied with my interpersonal relationship. I feel loved. And I receive help and support from others when I need it.						
9. I have a purposeful and meaningful life. What I do in my life is valuable and worthwhile. I have a sense of direction in my life.						
10. I am making progress towards accomplishing my goals. I have achieved the important goals I have set for myself. I can handle my responsibilities.						
To what extent do you feel about 'yourself' that you have actualized (self-actualization)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
11. I do not feel ashamed of any of my emotions such as getting angry, frustrated or sad.						
12. It is not necessary that I must do what others expect me to do.						
13. I believe that people are essentially good and can be trusted.						
14. I feel free to be angry at those I love. For example, I can						

learn to love someone even when they upset me and I'm still angry about their decisions.						
15. It is not necessary that others approve of what I do.						
16. I can accept my own weaknesses.						
17. I can like people without having to approve of them.						
18. I am not afraid of failure.						
19. I attempted to analyze and simplify complex domains even they are difficult tasks.						
20. It is better to be yourself than to be popular.						
21. I have a mission/ missions in life to which I feel especially dedicated.						
22. I can express my feelings even when they may result in undesirable consequences.						
23. I feel responsible to help other people.						
24. I am not afraid of being inadequate.						
25. I am loved because I give love.						
To what extent do you take care of your health currently	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
26. I regularly drink 8-10 glasses of clean water every day.						
27. I regularly take sufficient vegetable and fruit with my meals.						
28. I regularly exercise.						
29. I don't smoke cigarettes.						
30. I don't drink alcohol.						
To what extent do you feel about your 'financial well-being' currently	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
31. I owned a house or other type of living that is in good condition.						
32. I have a life insurance, health insurance, social security fund or other type of insurance.						
33. Currently, I have no debt or just some credit card debt which is manageable.						
34. I have enough income from pension, social security fund, interest, dividend, or other types of profits from doing business or investment.						
35. I have enough financial supports from my spouse, children, and relatives.						
36. Since before retired, I made meaningful contributions to a retirement savings and can live my life in retirement as I planned.						
37. Overall I have enough income and saving from all the sources mentioned above to live a good life in retirement						
To what extent do you feel about your social engagement currently	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
38. I am living with someone e.g. spouse/ partner/ children/ relatives/ friends.						
39. I regularly have direct contact with family/ friends.						
40. I have regular attendance at education/ arts, social or sports club/class.						
41. I engage in a work which can sufficiently pay me.						

42. I engage in a voluntary work or a childcare work in the family.						
43. I engage in or being a part of a group. It could be political, environment, community or religious/ charity group.						
To what extent do you feel about your physical health maintenance	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
44. Over the last 12 months, my physical health on the whole has been good.						
45. For someone of my age, my health in general is good.						
46. I can maintain my health so I have never experienced or been diagnosed with coronary heart disease/ stroke.						
47. I can maintain my health so I have never experienced or been diagnosed with chronic obstructive pulmonary disease.						
48. I can maintain my health so I have never experienced or been diagnosed with cancer.						
49. I can maintain my health so I have never experienced or been diagnosed with diabetes.						
50. I can maintain my health so I have no disability.						
51. I can take care of myself e.g. eating, grooming, bathing, toileting.						
52. I have good mobility and locomotion e.g. transferring in bed/chair, toilet, shower, car, stairs.						
53. I have good vision without using glasses/ lenses.						
54. I have good hearing ability without using the hearing aids.						
55. I have good bladder and bowel management.						
56. I have good dental care.						
To what extent do you feel about your mental health maintenance	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
57. Over the last 12 months, my mental health on the whole has been good.						
58. For someone of my age, my mental health in general is good.						
59. I can maintain my health. I have never experienced or been diagnosed with depression, bipolar disorder, Parkinson's or mental health problem.						
60. I can communicate well e.g. in expression, comprehension, reading, writing, speaking						
61. I can interact well in the society.						
62. I have good cognitive ability e.g. in problem solving, in memorizing, in concentrating, and in safety awareness.						
To what extent do you feel about your personal-achievement profile (from the past)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
63. During my first 18 years of life, I have parents or at least one caregiver with whom I feel safe. There was at least one adult who could provide me with love, understanding, support, and advice.						
64. During my first 18 years of life, I have a predictable home routine like regular meals and regular bedtime.						

65. During my first 18 years of life, I have beliefs that gave me comfort. I have opportunities to have a good time.						
66. I received the education opportunity until the highest level as I desire.						
67. I love learning. I have performed well in studying and education.						
68. After graduated, I was usually employed or doing the business or working on the projects.						
69. I have had good, rewarding and meaningful occupations until retirement.						
70. My income was always enough for the regular expenses.						
71. I have earned good income until retirement.						
72. I have been surrounded by loving family and friends until retirement.						
73. I have had good social status and can socialize well until retirement.						
To what extent do you feel about your resilience (ability to adapt/ adjust/ bounce back to adversities)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
74. I tend to bounce back quickly after hard times.						
75. I have a hard time making it through stressful events.						
76. It does not take me long to recover from a stressful event.						
77. I can confront or snap back when something bad happens.						
78. I usually come through difficult times with little trouble.						
79. I don't take a long time to get over set-backs in my life.						
To what extent do you feel about your resilience coping (your behavior and actions on difficult situations.)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
80. I look for creative ways to alter difficult situations.						
81. Regardless of what happens to me, I believe that I can control my reaction to it.						
82. I believe that I can grow in positive ways by dealing with difficult situations						
83. I actively look for ways to replace the losses I encounter in life.						

Gender	( ) Male ( ) Female
Age	years old
How old do you feel?	years old
Nationality	
Marital status	( ) Single ( ) Married ( ) Divorced/ Separated ( ) Widow/Widower
Family type	( ) Living alone ( ) Living with friend/ roommate ( ) Living with spouse/ lover ( ) Living with children/ siblings ( ) Living with spouse and children ( ) Living in a big family
Numbers of people living in the family (including the older person)	persons
Numbers of existing children (including the children, step children, foster children)	persons
Person who stays/ is responsible for taking care of the older adults	
Highest educational level achieved	( ) Illiterate ( ) Primary School ( ) Secondary School ( ) High School ( ) Vocational School ( ) Higher Vocational School ( ) Bachelor degree ( ) Master degree ( ) Doctoral degree

Occupation (before retirement)	( ) Profession, Semi-profession ( ) Business owner, Entrepreneur, Manager ( ) Government official, Office worker ( ) Trader, Technician, Farmer ( ) Machinery Operator, Factory Worker, Driver ( ) Laborer ( ) Unemployed ( ) Others, please specify_____
Type of job (after retirement)	( ) Paid full-time work ( ) Part-time work ( ) Voluntary work ( ) Entrepreneur/ Investor ( ) Retired/ Stay at home
Estimated monthly income (all the sources of income which the older adults receive)	( ) Below 5,000 Baht ( ) 5,000-10,000 Baht ( ) 10,001- 15,000 Baht ( ) 15,001- 30,000 Baht ( ) 30,001- 50,000 Baht ( ) Above 50,000 Baht
Estimated family monthly income	( ) Below 10,000 Baht ( ) 10,000- 15,000 Baht ( ) 15,001 – 30,000 Baht ( ) 30,001 – 50,000 Baht ( ) 50,001 - 100,000 Baht ( ) More than 100,000 Baht

Appendix 2: Questionnaire in Thai

แบบสอบถามฉบับนี้ถูกจัดทำขึ้นเพื่อเก็บข้อมูลเรื่อง มุมมองแบบองค์รวมของผู้สูงอายุที่ประสบความสำเร็จในประเทศไทย โดยเป็นส่วนหนึ่งของการทำดุษฎีนิพนธ์ ของ นางสาวสุพิชา บูรณะวิทยาภรณ์ นักศึกษาปริญญาเอก วิทยาลัยนานาชาติ สถาบันบัณฑิตพัฒนบริหารศาสตร์ ประเทศไทย โดยเป็นการวิจัยอิสระ ข้อมูลของท่านทั้งหมดจะถูกเก็บรักษาความเป็นส่วนตัวและเป็นความลับ ขอบคุณค่ะ

หมายเหตุ : มาตราส่วนที่ใช้ในแบบสอบถามชุดนี้มี 6 หน่วย ไม่เห็นด้วยอย่างมากใช้รหัส 1, ไม่เห็นด้วยใช้รหัส 2, ไม่เห็นด้วยเล็กน้อยใช้รหัส 3, เห็นด้วยเล็กน้อยใช้รหัส 4, เห็นด้วยใช้รหัส 5, และเห็นด้วยอย่างมากใช้รหัส 6

คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับชีวิตของคุณ (ความพึงพอใจในชีวิต)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
1. ส่วนมาก ชีวิตของฉันใกล้เคียงกับความคาดหวังของฉัน						
2. ปัจจัยแวดล้อมในชีวิตของฉันถือว่าดีเยี่ยม						
3. ฉันรู้สึกพึงพอใจกับชีวิตของฉัน						
4. จนถึงตอนนี้ ฉันได้รับสิ่งต่างๆ ที่สำคัญในชีวิตของฉัน						
5. ถ้าฉันสามารถใช้ชีวิตได้ใหม่ ฉันแทบจะไม่ต้องเปลี่ยนอะไรเลย						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับชีวิตของคุณ (ความผาสุก)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
6. โดยทั่วไป ฉันรู้สึกเบิกบานใจ มองในแง่บวก และ พอใจในสิ่งที่เป็นอยู่						
7. ฉันรู้สึกตื่นเต้นและมีความสนใจในสิ่งต่างๆ ฉันจดจ่อเวลาทำสิ่งต่างๆ ในบางครั้งฉันลืมเวลาไปในขณะที่ฉันกำลังเพลิดเพลินทำสิ่งที่ฉันชอบ						
8. ฉันรู้สึกพึงพอใจในความสัมพันธ์กับบุคคลอื่นๆ ฉันรู้สึกเป็นที่รัก ฉันได้รับความช่วยเหลือและการสนับสนุนจากคนอื่นๆ เมื่อจำเป็น						
9. ฉันมีชีวิตที่มีจุดประสงค์และมีความหมาย สิ่งที่ฉันทำในชีวิตมีคุณค่าและคุ้มค่า ฉันรู้สึกได้ถึงทิศทางในชีวิตของฉัน						
10. ฉันกำลังก้าวหน้าในการทำตามความมุ่งหมายของฉัน ฉันได้บรรลุความมุ่งหมายสำคัญต่างๆที่ฉันได้ตั้งไว้ให้กับตนเอง ฉันสามารถจัดการสิ่งที่ฉันต้องรับผิดชอบได้						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับตัวคุณ (การบรรลุเป้าหมายสูงสุดของตัวเอง)	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
11. ฉันไม่รู้สึกผิดกับความรู้สึกนึกคิดใดๆ ของฉัน เช่น ความรู้สึกโกรธ ผิดหวัง หรือเศร้าเสียใจ						
12. มันไม่เป็นการจำเป็น ที่ฉันจะต้องทำในสิ่งที่ผู้อื่นคาดหวังให้ฉันทำ						
13. ฉันเชื่อว่าผู้คนเป็นคนดีโดยพื้นฐานและสามารถถูกไว้วางใจได้						
14. ฉันรู้สึกว่าสามารถโกรธคนที่ฉันรักได้ เช่น ฉันสามารถเรียนรู้ที่จะรักใครบางคนได้ แม้พวกเขาจะทำให้ฉันทุกข์ร้อนและฉันยังรู้สึกโกรธในการตัดสินใจของพวกเขาอยู่						

15. มันไม่เป็นการจำเป็น ที่ผู้อื่นจะต้องเห็นพ้องในสิ่งที่ฉันทำ						
16. ฉันสามารถยอมรับข้อบกพร่องของฉันเอง						
17. ฉันสามารถชอบผู้คน โดยไม่ต้องเห็นด้วยกับพวกเขา						
18. ฉันไม่กลัวความล้มเหลว						
19. ฉันพยายามลองที่จะวิเคราะห์และทำขอบเขตความคิดที่ซับซ้อนให้กระจ่าง แม้ว่ามันจะเป็นงานที่ยาก						
20. มันดีกว่าที่จะเป็นตัวเอง มากกว่าจะเป็นที่นิยม						
21. ฉันมีภาระหน้าที่ในชีวิตที่ฉันทุ่มเทเป็นพิเศษ						
22. ฉันสามารถแสดงความรู้สึกของฉัน แม้มันจะส่งผลที่ไม่พึงปรารถนา						
23. ฉันรู้สึกรับผิดชอบในการช่วยเหลือผู้อื่น						
24. ฉันไม่รู้สึกทุกข์ร้อนกับความกลัวที่ว่าจะไม่ดีพอ						
25. ฉันเป็นที่รักเพราะฉันให้ความรัก						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับการดูแลสุขภาพของคุณในปัจจุบัน	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
26. ฉันดื่มน้ำสะอาด 8-10 แก้วทุกวันเป็นประจำ						
27.ฉันรับประทานผักและผลไม้อย่างเพียงพอในมื้ออาหารเป็นประจำ						
28. ฉันออกกำลังกายเป็นประจำ						
29. ฉันไม่สูบบุหรี่เป็นประจำ						
30. ฉันไม่ดื่มเครื่องดื่มแอลกอฮอล์						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับสถานะทางการเงินของคุณในปัจจุบัน	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
31. ฉันเป็นเจ้าของบ้าน หรือที่อยู่อาศัยในรูปแบบอื่นซึ่งอยู่ในสภาพที่ดี						
32. ฉันมีประกันสุขภาพ ประกันสังคม หรือความคุ้มครองในรูปแบบอื่นๆ						
33. ในตอนนี้ ฉันไม่มีหนี้ หรือ มีแค่หนี้บัตรเครดิตเล็กน้อยซึ่งสามารถจัดการได้						
34. ฉันมีรายได้เพียงพอจาก เงินบำเหน็จบำนาญ เงินประกันสังคม ดอกเบี้ย เงินปันผล หรือกำไรประเภทอื่นๆซึ่งได้จากการทำธุรกิจหรือการลงทุน						
35. ฉันมีการสนับสนุนทางการเงินที่เพียงพอ จากคู่สมรส ลูกหลาน หรือ เครือญาติ						
36. ตั้งแต่ก่อนเกษียณ ฉันได้ลงทุนอย่างเพียงพอในการออมเพื่อการเกษียณ และสามารถใช้ชีวิตการเกษียณอย่างที่ฉันวางแผนไว้ได้						
37. โดยรวมแล้ว ฉันมีรายได้และเงินเก็บออมเพียงพอ จากแหล่งต่างๆ ตามที่กล่าวถึงด้านบน เพื่อใช้ชีวิตเกษียณที่ดี						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับการอยู่ร่วมกันในสังคมของคุณในปัจจุบัน	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
38. ฉันใช้ชีวิตอยู่กับใครบางคน เช่น คู่สมรส คนรัก ลูกหลาน ญาติ เพื่อน						
39. ฉันมีการติดต่อโดยตรงกับครอบครัวหรือ เพื่อนเป็นประจำ						
40. ฉันมีการเข้าร่วมชมรมหรือชั้นเรียน ที่เกี่ยวกับการศึกษา ศิลปะ สังคม หรือกีฬาเป็นประจำ						
41. ฉันมีส่วนร่วมในการทำงานซึ่งให้เงินตอบแทน						
42. ฉันมีส่วนร่วมในงานอาสาสมัคร หรือ งานเลี้ยงดูบุตรหลาน						

43. ฉันมีส่วนร่วมหรือเป็นส่วนหนึ่งในกลุ่ม โดยอาจเป็นกลุ่มการเมือง สิ่งแวดล้อม สังคม หรือองค์กรทางศาสนา-การกุศล						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับการดูแลรักษาสุขภาพทางกายของคุณ	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
44. ในช่วง 12 เดือนที่ผ่านมา สุขภาพทางกายของฉันโดยรวมถือว่าดี						
45. สำหรับคนอายุรุ่นราวคราวเดียวกับฉัน สุขภาพทางกายโดยทั่วไปของฉันถือว่าดี						
46. ฉันสามารถดูแลสุขภาพตนเอง ซึ่งทำให้ฉันไม่เคยเป็นหรือถูกวินิจฉัยว่าเป็นโรคเกี่ยวกับหัวใจ						
47. ฉันสามารถดูแลสุขภาพตนเอง ซึ่งทำให้ฉันไม่เคยเป็นหรือถูกวินิจฉัยว่าเป็นโรคเกี่ยวกับปอด						
48. ฉันสามารถดูแลสุขภาพตนเอง ซึ่งทำให้ฉันไม่เคยเป็นหรือถูกวินิจฉัยว่าเป็นโรคมะเร็ง						
49. ฉันสามารถดูแลสุขภาพตนเอง ซึ่งทำให้ฉันไม่เคยเป็นหรือถูกวินิจฉัยว่าเป็นโรคเบาหวาน						
50. ฉันสามารถดูแลสุขภาพตนเอง ซึ่งทำให้ฉันไม่มีความพิการใดๆ						
51. ฉันสามารถดูแลตนเอง เช่น การกิน การแต่งตัว การอาบน้ำ การเข้าห้องน้ำ						
52. ฉันมีการเคลื่อนย้ายและเคลื่อนไหวที่ดี เช่น การย้ายเข้าเตียง เก้าอี้ การเข้าห้องน้ำ การอาบน้ำ การขึ้นรถ การขึ้นลงบันได						
53. ฉันมีความสามารถในการมองเห็นที่ดี โดยไม่ต้องพึ่งการใช้แว่นหรือเลนส์						
54. ฉันมีความสามารถในการฟังที่ดี โดยไม่ต้องพึ่งการใช้อุปกรณ์ช่วยฟัง						
55. ฉันสามารถจัดการการขับถ่ายปัสสาวะและอุจจาระได้ดี						
56. ฉันมีการรักษาฟัน-ช่องปากที่ดี						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับการดูแลรักษาสุขภาพจิตของคุณ	**1** ☹	**2**	**3**	**4**	**5**	**6** ☺
57. ในช่วง 12 เดือนที่ผ่านมา สุขภาพจิตของฉันโดยรวมถือว่าดี สำหรับคนอายุรุ่นราวคราวเดียวกับฉัน						
58. สุขภาพจิตโดยทั่วไปของฉันถือว่าดี						
59. ฉันสามารถดูแลสุขภาพตนเอง ซึ่งทำให้ฉันไม่เคยเป็นหรือถูกวินิจฉัยว่าเป็นโรคซึมเศร้า ไบโพลาร์ พาร์กินสัน หรือปัญหาทางสุขภาพจิตอื่นๆ						
60. ฉันสามารถสื่อสารได้ดี เช่น การแสดงความรู้สึก การเข้าใจ การอ่าน การเขียน การพูด						
61. ฉันมีปฏิสัมพันธ์ที่ดีในสังคม						
62. ฉันมีทักษะกระบวนการคิดที่ดี เช่น ในการแก้ปัญหา การจดจำ การใช้สมาธิ และการตระหนักถึงความปลอดภัย						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับประวัติความสำเร็จในชีวิตที่ผ่านมาของท่าน						
63. ในช่วงชีวิต 18 ปีแรกของฉัน ฉันมีพ่อแม่หรือผู้ให้การดูแลอย่างน้อยหนึ่งคนซึ่งฉันรู้สึกปลอดภัย มีผู้ใหญ่อย่างน้อยหนึ่งคนซึ่งให้ความรัก ความเข้าใจ การสนับสนุนและคำแนะนำแก่ฉัน						
64. ในช่วงชีวิต 18 ปีแรกของฉัน ฉันมีกิจวัตรประจำวันในบ้านซึ่งคาดการณ์ได้ เช่น มื้ออาหารประจำ และ เวลานอนประจำ						

65. ในช่วงชีวิต 18 ปีแรกของฉัน ฉันมีความเชื่อซึ่งทำให้ฉันสบายใจ ฉันมีโอกาสที่จะมีช่วงเวลาที่ดี						
66. ฉันได้รับโอกาสทางการศึกษาจนถึงระดับสูงสุดตามที่ฉันต้องการ						
67. ฉันรักการเรียนรู้ ฉันสามารถทำได้ดีในการเรียนและการศึกษา						
68. หลังจากเรียนจบแล้ว ฉันได้รับการจ้างงาน หรือ ทำธุรกิจ หรือทำงานในโครงการต่างๆ อย่างสม่ำเสมอ						
69. ฉันมีอาชีพการงานที่ดี มีคุณค่า และมีความหมาย จนกระทั่งเกษียณ						
70. รายได้ของฉันมักจะเพียงพอต่อรายจ่ายประจำ						
71. ฉันได้รับรายได้ที่ดีจนกระทั่งเกษียณ						
72. ฉันถูกแวดล้อมไปด้วยครอบครัวและเพื่อนที่เป็นที่รัก จนกระทั่งเกษียณ						
73. ฉันมีสถานะทางสังคมที่ดี และสามารถเข้าสังคมได้ดี จนกระทั่งเกษียณ						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับความยืดหยุ่นของท่าน (ความสามารถในการปรับตัว, ปรับเปลี่ยน และฟื้นคืนสู่สภาพปกติเมื่อเผชิญความทุกข์ยาก)						
74. ฉันสามารถกลับสู่สภาพปกติได้เร็ว หลังจากผ่านความยากลำบาก						
75. ฉันตกระกำลำบากในการก้าวผ่านเหตุการณ์ที่ตึงเครียด						
76. มันใช้เวลาไม่นานสำหรับฉันในการฟื้นคืนจากเหตุการณ์ที่ตึงเครียด						
77. ฉันสามารถที่จะเผชิญหน้าหรือโต้กลับ เมื่อมีอะไรไม่ดีเกิดขึ้น						
78. ฉันสามารถประคองตัวผ่านเหตุการณ์ที่ยากลำบากได้โดยมีปัญหาเพียงเล็กน้อย						
79. ฉันใช้เวลาไม่นาน ในการผ่านอุปสรรคในชีวิตของฉัน						
คุณรู้สึกเห็นด้วยมากน้อยแค่ไหนเกี่ยวกับวิธีการปรับตน ความยืดหยุ่นของท่าน (พฤติกรรมและการกระทำของท่านเมื่อเผชิญกับสถานการณ์ที่ยากลำบาก)						
80. ฉันมองหาวิธีการที่สร้างสรรค์ที่จะเปลี่ยนสถานการณ์ที่ยากลำบาก						
81. ไม่ว่าจะมีอะไรเกิดขึ้นกับฉัน ฉันเชื่อว่าฉันสามารถควบคุมปฏิกิริยาของฉันต่อสถานการณ์นั้นได้						
82. ฉันเชื่อว่าฉันสามารถเติบโตในแง่บวก โดยการจัดการกับสถานการณ์ที่ยากลำบาก						
83. ฉันมองหาวิธีการที่จะชดเชยความสูญเสียที่ฉันเผชิญในชีวิตอย่างกระตือรือร้น						

เพศ	( ) ชาย ( ) หญิง
อายุ	ปี
คุณรู้สึกว่าคุณอายุเท่าไหร่	ปี
สัญชาติ	
จังหวัดที่อาศัยอยู่ในปัจจุบัน	
จังหวัดที่เกิดและเติบโต	
สถานะทางการสมรส	( ) โสด ( ) สมรส ( ) หย่าร้าง/ แยกกันอยู่ ( ) หม้าย
ลักษณะครอบครัว	( ) อาศัยอยู่คนเดียว ( ) อาศัยอยู่กับเพื่อน/ เพื่อนร่วมห้อง ( ) อาศัยอยู่กับสามีภรรยา/ คนรัก ( ) อาศัยอยู่กับลูก/ ญาติพี่น้อง ( ) อาศัยอยู่กับสามีภรรยาและลูก ( ) อาศัยอยู่กันเป็นครอบครัวใหญ่
จำนวนคนที่อาศัยอยู่ในครอบครัว (โดยนับรวมผู้สูงอายุด้วย)	คน
จำนวนบุตรที่มีในปัจจุบัน (รวมถึงบุตร บุตรเลี้ยง บุตรบุญธรรม)	คน
บุคคลที่อยู่ รับผิดชอบในการดูแลผู้สูงอายุ	
การศึกษาขั้นสูงสุดที่ได้รับ	( ) ไม่ได้รับการศึกษา ( ) ประถมศึกษา ( ) มัธยมศึกษาตอนต้น ( ) มัธยมศึกษาตอนปลาย ( ) อาชีวศึกษา ( ) ประกาศนียบัตรวิชาชีพชั้นสูง ( ) ปริญญาตรี ( ) ปริญญาโท ( ) ปริญญาเอก

อาชีพ (ก่อนการเกษียณอายุ)	( ) อาชีพที่เป็นวิชาชีพ/ กึ่งวิชาชีพ ( ) เจ้าของธุรกิจ, ผู้ประกอบการ, ผู้จัดการ ( ) ข้าราชการ, พนักงานบริษัท ( ) ค้าขาย, ช่างเครื่อง, เกษตรกร ( ) ช่างควบคุมเครื่องจักร, พนักงานโรงงาน, คนขับรถ ( ) ผู้ใช้แรงงาน ( ) ว่างงาน ( ) อื่นๆ โปรดระบุ_____
ประเภทของงาน (หลังเกษียณอายุ)	( ) งานประจำที่มีรายได้ ( ) งานเสริม ( ) งานอาสาสมัคร ( ) ผู้ประกอบการ/ นักลงทุน ( ) เกษียณ/ อยู่บ้าน
รายได้โดยเฉลี่ยต่อเดือน (รวมรายได้ทั้งหมดที่ผู้สูงอายุได้รับ)	( ) ต่ำกว่า 5,000 บาท ( ) 5,000-10,000 บาท ( ) 10,001- 15,000 บาท ( ) 15,001- 30,000 บาท ( ) 30,001- 50,000 บาท ( ) มากกว่า 50,000 บาท
รายได้โดยเฉลี่ยของครอบครัวต่อเดือน	( ) ต่ำกว่า 10,000 บาท ( ) 10,000- 15,000 บาท ( ) 15,001 – 30,000 บาท ( ) 30,001 – 50,000 บาท ( ) 50,001 - 100,000 บาท ( ) มากกว่า 100,000 บาท

Appendix3: Exploratory factor analysis-Pattern Matrix

	Component								
	1	2	3	4	5	6	7	8	9
SAT1		.875							
SAT2		.802							
SAT3		.874							
SAT4		.946							
SAT5		.955							
WELL1		.639							
WELL2		eliminated							
WELL3		eliminated							
WELL4		.728							
WELL5		.672							
SELF1			eliminated						
SELF2			eliminated						
SELF3			eliminated						
SELF4			eliminated						
SELF5			.760						
SELF6			.874						
SELF7			.746						
SELF8			eliminated						
SELF9			.641						
SELF10			.662						
SELF11			eliminated						
SELF12			eliminated						
SELF13			.766						
SELF14			.752						
SELF15			.576						
HEALTH1								.758	
HEALTH2								.808	
HEALTH3								.819	
HEALTH4								eliminated	
HEALTH5								eliminated	
FN1									.379
FN2									.503
FN3									eliminated
FN4									.664
FN5									eliminated
FN6									.653
FN7									eliminated
SOCIAL1							eliminated		
SOCIAL2							eliminated		
SOCIAL3							.713		
SOCIAL4							eliminated		
SOCIAL5							.938		
SOCIAL6							.789		
PH_MAIN1						eliminated			
PH_MAIN2						eliminated			
PH_MAIN3						eliminated			
PH_MAIN4						.672			
PH_MAIN5						.754			
PH_MAIN6						.823			
PH_MAIN7						.694			
PH_MAIN8						eliminated			
PH_MAIN9						eliminated			
PH_MAIN10						eliminated			
PH_MAIN11						eliminated			
PH_MAIN12						eliminated			
PH_MAIN13						eliminated			
M_MAIN1					.942				
M_MAIN2					.954				
M_MAIN3					eliminated				
M_MAIN4					eliminated				
M_MAIN5					.717				
M_MAIN6					.508				

PROFILE1 PROFILE2 PROFILE3 PROFILE4 PROFILE5 PROFILE6 PROFILE7 PROFILE8 PROFILE9 PROFILE10 PROFILE11				eliminated eliminated eliminated .992 eliminated 1.007 .938 eliminated eliminated .446 .441					
RES1 RES2 RES3 RES4 RES5 RES6 RES7 RES8 RES9 RES10	.702 eliminated .897 .917 .977 .934 .801 .778 .726 .777								

Appendix 4: The questions remained in the questionnaire

Well-being (SA1)

1. In most ways my life is close to my ideal.
2. The conditions of my life are excellent.
3. I am satisfied with my life.
4. So far I have gotten the important things I want in my life.
5. If I could live my life over, I would change almost nothing.
6. In general, I feel joyful, positive and contented.
7. I have a purposeful and meaningful life. What I do in my life is valuable and worthwhile. I have a sense of direction in my life.
8. I am making progress towards accomplishing my goals. I have achieved the important goals I have set for myself. I can handle my responsibilities.

Self-actualization (SA2)

1. It is not necessary that others approve of what I do.
2. I can accept my own weaknesses.
3. I can like people without having to approve of them.
4. I attempted to analyze and simplify complex domains even they are difficult tasks.
5. It is better to be yourself than to be popular.
6. I feel responsible to help other people.
7. I am not afraid of being inadequate.
8. I am loved because I give love.

Current Health Behavior (Health)

1. I regularly drink 8-10 glasses of clean water every day.
2. I regularly take sufficient vegetable and fruit with my meals.
3. I regularly exercise.

Current Financial Well-being (FN)

1. I owned a house or other type of living that is in good condition.
2. I have a life insurance, health insurance, social security fund or other type of insurance.
3. I have enough income from pension, social security fund, interest, dividend, or other types of profits from doing business or investment.
4. Since before retired, I made meaningful contributions to a retirement savings and can live my life in retirement as I planned.

Current Social Engagement (SOC)

1. I have regular attendance at education/ arts, social or sports club/class.
2. I engage in a voluntary work or a childcare work in the family.
3. I engage in or being a part of a group. It could be political, environment, community or religious/ charity group.

Physical Health Maintenance (PH_MAIN)

1. I can maintain my health so I have never experienced or been diagnosed with coronary heart disease/ stroke.
2. I can maintain my health so I have never experienced or been diagnosed with chronic obstructive pulmonary disease.
3. I can maintain my health so I have never experienced or been diagnosed with cancer.
4. I can maintain my health so I have never experienced or been diagnosed with diabetes.

Mental Health Maintenance (M_MAIN)

1. Over the last 12 months, my mental health on the whole has been good.
2. For someone of my age, my mental health in general is good.
3. I can interact well in the society.

4. I have good cognitive ability e.g. in problem solving, in memorizing, in concentrating, and in safety awareness.

Profile (PROFILE)

1. I received the education opportunity until the highest level as I desire.
2. After graduated, I was usually employed or doing the business or working on the projects.
3. I have had good, rewarding and meaningful occupations until retirement.
4. I have been surrounded by loving family and friends until retirement.
5. I have had good social status and can socialize well until retirement.

Resilience (RES)

1. I tend to bounce back quickly after hard times.
2. It does not take me long to recover from a stressful event.
3. I can confront or snap back when something bad happens.
4. I usually come through difficult times with little trouble.
5. I don't take a long time to get over set-backs in my life.
6. I look for creative ways to alter difficult situations.
7. Regardless of what happens to me, I believe that I can control my reaction to it.
8. I believe that I can grow in positive ways by dealing with difficult situations
9. I actively look for ways to replace the losses I encounter in life.

BIOGRAPHY

NAME	Suphicha Booranavitayaporn
ACADEMIC BACKGROUND	Bachelor of Business Administration majoring in Marketing from Thammasat University, Thailand in year 2009 and Master of Business Administration in Business Modeling and Analysis from Mahidol University International College, Thailand in year 2014
EXPERIENCES	A guest lecturer in Basic Mathematics, Quantitative Methods in Business, Stamford International University, Thailand, from year 2017- 2019
	A guest lecturer in Personal Financial Management, Mahidol University International College, Thailand, year 2019
	A lecturer in Introduction to Business, Principles of Marketing, International Business Environment, Innovation and Change Management, and an advisor in Cooperative Education, Assumption University, Thailand, from year 2014-2017
	A homeroom teacher of year 4 and year 6. A Thai-subject and Thai culture teacher from year 1 to year 11, Crescent International School, from year 2011-2013
	A recruiter (Engineering and Technical Department), Adecco Thailand (Recruitment agency- HR consultancy), from year 2010-2011