

The Role of Economic Factors Affecting Thai Older Persons' Life Satisfaction.



An Independent Study Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Arts in Population Policy and Human Development

Field of Study of Population Policy and Human Development

COLLEGE OF POPULATION STUDIES

Chulalongkorn University

Academic Year 2021

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สารนิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต
สาขาวิชานโยบายประชากรกับการพัฒนามนุษย์ สาขาวิชานโยบายประชากรกับการพัฒนามนุษย์
(นานาชาติ)

วิทยาลัยประชากรศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

ปีการศึกษา 2564

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Persons' Life Satisfaction.
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6484008451 : MAJOR POPULATION POLICY AND HUMAN DEVELOPMENT

KEYWORD: ageing, ageing population, ageing society, economic factors, income, level of income, source of income, value of assets, assets

Daria Turavinina : The Role of Economic Factors Affecting Thai Older Persons' Life Satisfaction. . Advisor: Asst. Prof. YOT AMORNKITVIKAI, Ph.D.

An aging population is one of the significant demographic issues affecting the world. As Thailand is moving closer to being considered a super-aged society, major policy reforms must be made to prepare for this transition. Economic factors have long been established as one of the factors contributing to elderly life satisfaction. As the aging population is becoming an ever-increasing and more relevant phenomenon, policymakers' goals are shifting to accommodate the sociopolitical changes that will come with the demographic developments. This independent study examines a sample of n=4716 Thai elderly. The statistical techniques used in this study are Linear Regression and Order Logit Model. The study finds that several significant economic factors contribute to the life satisfaction of the Thai elderly. These factors include income level, with higher income contributing to higher life satisfaction. Secondly, the source of income, with work, gratuity, spouse, and daughter contribute to a higher level of life satisfaction. In addition, assets were found to be a significant contributor to the life satisfaction of the elderly, with gold and savings resulting in higher life satisfaction. Moreover, lower total asset net worth negatively affected life satisfaction. Finally, this independent study examines possible policy recommendations and discussions related to the findings.

Field of Study: Population Policy and
Human Development

Student's Signature

Academic Year: 2021

Advisor's Signature

ACKNOWLEDGEMENTS

I would like to acknowledge and give special thanks to my supervisor, Assistant Professor Dr. Yot Amornkitvikai. His advice enormously helped me complete and refine this independent study, and this research would not be possible without him. I would also like to extend great thanks to the committee Associate Professor Dr. Wonlop Writthym Buachoom, Dr. Chadatan Osatis, Assistant Professor Dr. Yot Amornkitvikai for taking the time to hear out the defense of this independent study. I would like to thank the committee for all the comments, advice, suggestions or criticism that they can provide regarding this independent study. Special acknowledgment to the College of Population Studies of Chulalongkorn University faculty. I would like to extend my thanks to all professors and supporting staff. I would also like to acknowledge the ASEAN/non-ASEAN scholarship program as a great and significant contributor to my studies at Chulalongkorn University and I would like to sincerely thank the program committee. Lastly, I would like to extend thanks to Mr. Muhammad Syukron Ma'mun, my colleague in the Master's degree program at the College of Population study, for allocating his help in constructing the equation for this independent study.



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Chapter 1 Introduction

1.1 Introduction

An aging society is one in which 10% of the population is above 60 (NCE, 2018). In the case of Thailand, it was estimated to be 18% of the population as of 2018, with Thailand forecasted to become a “completely aged society” in the coming few years (NCE, 2018). As a result of these changes, Thailand has been ranked the third fastest aging country in the world (NCE, 2018). However, there should be an opportunity to create solutions to the issues of the aging population and, more than that, empower older persons to contribute to the economy, environment, culture, and society (NCE, 2018).

Happiness is key in providing the elderly with a sustainable future, as happier elderly are less likely to be affected by morbidities and are more likely to be productive and involved in society (Stephoe 2019). The elderly, if not neglected by policymakers, can create great potential for sustainable societal development. Determining the economic factors that contribute to the life satisfaction of the elderly allows us to create focused and productive sociopolitical efforts to accommodate this ever-growing and intrinsically valuable demographic.

1.2 Introduction on Thailand

Thailand is located in Southeast Asia. The country is a nation comprising of hundreds of ethnicities and cultures (ESCAP 2021). Thailand is home to 66.1 million people as of January 2021 (NSO 2021). Thailand borders Lao DPR and Myanmar to the North, Cambodia and Lao DPR to the East, Myanmar to the West, and Malaysia to the South (ESCAP 2021). The land area of Thailand is approximately 514,000 sq. km (NSO 2021). The maritime area of the country covers 72,200 sq. km (NSO 2021). The climate of Thailand is tropical or sub-tropical in the North of the country (ESCAP 2021).

Thai is the national language of the country, even though it comprises of multiple languages and cultures (ESCAP 2021). The literacy rate of the country is more than 93% (ESCAP 2021). The majority of the country follow the Buddhist religion, with more than 90% of the country being Buddhists (NSO 2021).

Even though Thailand had been severely impacted by the financial crisis of 1997, the nation managed to recover their economy (ESCAP 2021). This also allowed for Thailand to be resilient during the 2008 financial crisis, largely due to economic reforms that followed 1997 (ESCAP 2021).

The main export of Thailand comes from manufacturing, which accounts for more than 70% of the country's export income, which includes computer

technology (ESCAP 2021). The second source comes from agriculture, which accounts for more than 13%, followed by industrial products (8%), mining (5%) and more (ESCAP 2021). Meanwhile, tourism only accounts for around 6% of the GDP (ESCAP 2021). The capital of Thailand is Krung Thep, also known as Bangkok (ESCAP 2021). However, the recent capital growth has put infrastructure and resources under strain. In addition, Thailand is also home to more than 8.1 million elderly (above 65 years old) (NSO 2021).

1.3 Background and problem review

1.3.1 Demographic transition theory

Demographic transition is a phenomenon seen in a variety of countries across the world. Stage 1 of the demographic transition process is characterized by high birth and death rates. It is generally a characteristic of the least developed countries that face issues such as poor sanitation, cycles of war and starvation, and lack of healthcare and infrastructure (Caldwell 2006).

As countries take an industrial direction in their development, Stage 2 of the demographic transition is generally observed (Caldwell 2006). It presents with remaining high birth rates but lowering death rates due to greater access to modernized technology and a steadier supply of essential resources (Caldwell 2006).

Finally, stage 3 of the demographic transition process presents remaining high birth rates due to sustained cultural norms but further declining death rates due to industrialization and the development of the aforementioned areas of industry (Caldwell 2006).

Stages 2 and 3 of the demographic transition process create a sharp rise in population and a phenomenon known as the demographic dividend - a surplus of the working-age population concerning the dependent population (Caldwell 2006). This creates further economic development and a higher standard of living - people do not feel obligated to have children to provide for the family (Caldwell 2006).

This creates another side to the population explosion - the working-age people grow into older adults. However, due to the shifting cultural norms and more value being placed on each child, there are not enough people to replace them (UNFPA). As Thailand is dealing with an aging population, several challenges have arisen. These challenges include a strain on healthcare services, a shrinking working-age population, and slowed money circulation due to older persons retaining their savings (NCE 2018). These changes can contribute to slowing down the economy as a whole and stunting growth in developing countries (NCE 2018).

1.3.2 The population trends of Thailand

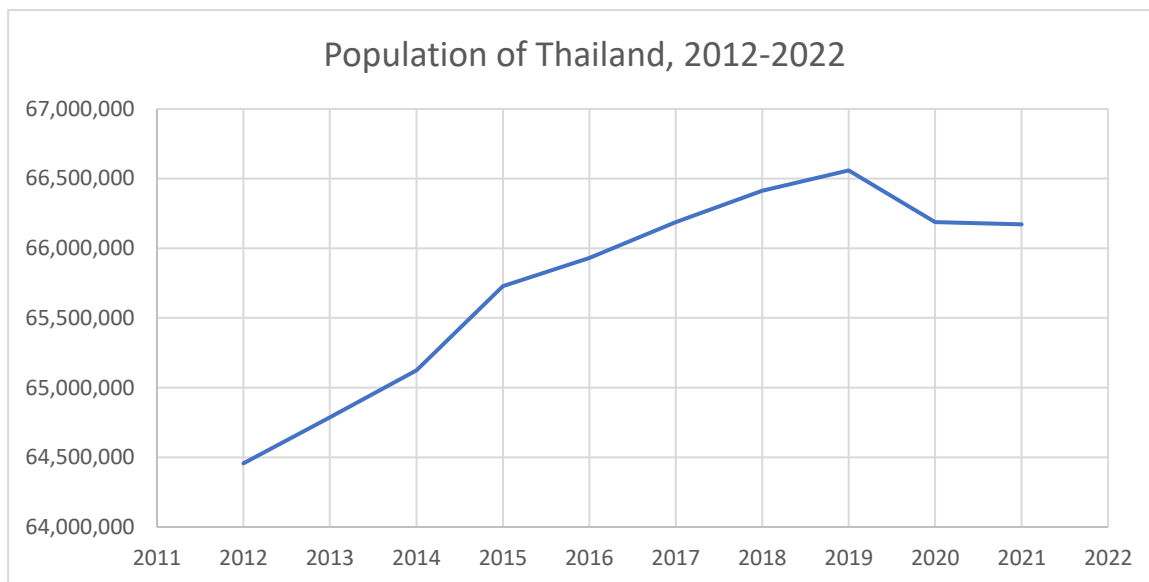


Figure 1. The population of Thailand from 2012-2021. (Source: NSO, 2022). Compiled by the author.

Figure 1 shows the total population of Thailand from 2012 to 2021. The population of Thailand has seen a rapid decline since 2019, which may be due to the coronavirus pandemic affecting the country, combined with the economic impacts of disrupted trade and tourism. However, we can see a plateau closer to the current year, suggesting a possible rebound in the population growth trend.

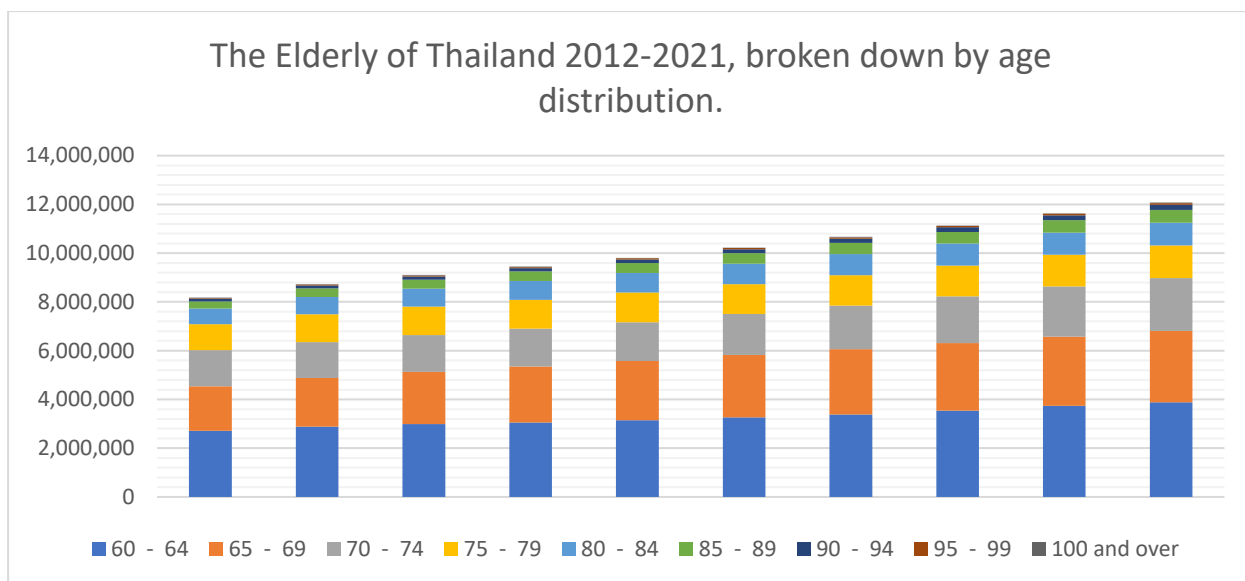


Figure 2. The Elderly of Thailand 2012-2021, broken down by age distribution.

(Source: NSO, 2022). Compiled by the author.

Figure 2 shows a closer look at the elderly of Thailand, according to the data from Thailand's National Statistical Office (NSO). A trend of an increasing number of elderly persons can be seen in the bar chart from 2012 to 2021. In addition, we see an increase in all the age groups of the Thai elderly. These trends strongly suggest a presence of an aging population in the country. Meaning, the number of older persons accounts for more than 18% of the population, close to the market for the “completely aged society” which is 20% (NCE 2018).

1.3.3 Happiness in Thailand

According to the World Happiness Report, Thailand ranked 61st in the world in the level of happiness (Helliwell, Layard et al. 2022). The World Happiness Report calculates the happiness index based on the following variables. GDP per capita and social support are the main predictors of happiness (Helliwell, Layard et al. 2022). These indicators are followed by healthy life expectancy, freedom to make choices, generosity, and perception of corruption (Helliwell, Layard et al. 2022).

Moreover, according to the report, the country scores highly on individualistic measures of happiness, meaning that the Thai people vastly prefer taking care of themselves compared to others to increase their level of happiness (Helliwell, Layard et al. 2022).

To expand on that, Thailand ranks third in the list of countries with the preferences as mentioned above, with the first being the Philippines and the second being Indonesia (Helliwell, Layard et al. 2022). Moreover, it should be known that in recent years, the happiness of Thai people has declined considerably since its peak in 2016. For instance, the happiness index in 2016 was 6.47, and 5.89 in 2021.

Interestingly, this decline started before the coronavirus pandemic, with the most rapid decline occurring between 2017 and 2018. Refer to Figure 3 below for a more detailed look at the happiness index of the Thai people. The economic

downturn and recession of recent years, coupled with the stagnant political situation, could be the reasons for the Thai people's decreasing happiness (UNFPA , Pohnpattanapaisankul 2019, ESCAP 2021, ILO 2022).

The shrinking of the working-age populations combined with the economic recession would first and foremost affect the elderly, who are often dependent on assistance from the government and their children (Li, Wang et al. 2020, Q. T. Trinh 2020, Udomkerdmongkol 2020, UN 2020). Economic determinants of elderly happiness and life satisfaction are key in realizing the potential of the elderly, as well as protecting the elderly from the adverse effects of unhappiness.

As stated previously, Thailand's happiness has been declining recently (Helliwell, Layard et al. 2022). This is associated with the factors such as the economic slowdown (Helliwell, Layard et al. 2022). This decline would likely be most felt by the vulnerable communities, such as the elderly, who can be forgotten and neglected by both the people close to them and by the governmental system itself (Helliwell, Layard et al. 2022). Therefore, it is vital to identify policy decisions that would contribute to economic measures designed to elevate the happiness of the elderly, especially as the country moves towards a super-aged society (NCE 2018).

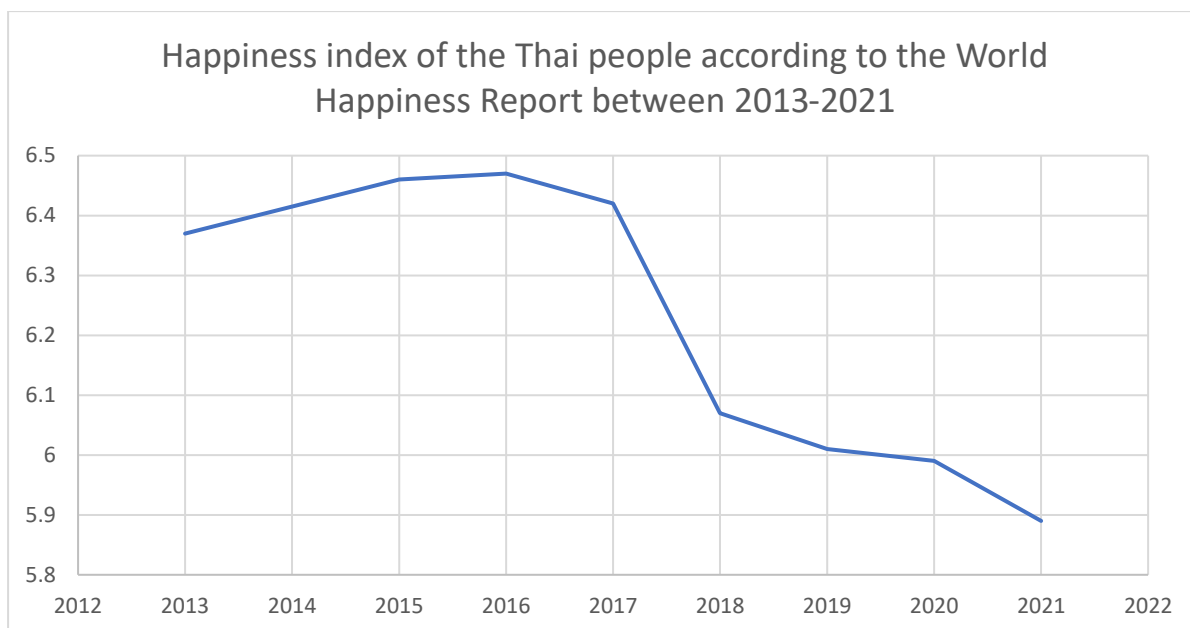


Figure 3. Happiness index of the Thai people according to the World Happiness Report between 2013-2021. (Source: World Happiness Report, 2013-2022). Compiled by the author.

1.3.4 Socioeconomic situation of the Thai elderly

While the life expectancy in Thailand is rising, healthy life expectancy still lags behind considerably (Somrongthong, Wongchalee et al. 2017). Meaning, that as the number of births fall and the elderly spend more and more years of life impacted by chronic illness, frailty, and disability, it places a strain on the healthcare services of the country and, in some cases, on the financial situation of the elderly themselves (Somrongthong, Wongchalee et al. 2017).

Chronic illnesses and morbidities gained with age often require continuous investment to treat. In some cases, the quality of treatment is better in private hospitals, so the elderly persons are led to use the funds they have available (Somrongthong, Wongchalee et al. 2017). Studies have shown that Thai elderly persons who had a higher income, consequently, had better health and life satisfaction outcomes than their counterparts with lower incomes (Somrongthong, Wongchalee et al. 2017).

Thailand has a variety of pension schemes. Government officials are covered by the Pension for Civil Servants Act of 1951, together with a lump-sum based Government Pension Fund (ILO 2016). Meanwhile, private sector employees receive their pension in accordance with the Social Security Act of 1990 (ILO 2016). They may also invest into a provident fund and receive a lump-sum payment when they decide to retire (ILO 2016).

Currently, Thai elderly persons who are not covered by the Social Security Scheme and are not receiving government benefits are covered by the Old Age Allowance (OAA) (Chamchan 2020). This measure was introduced in 2009, and the allowance was designed to protect the many elderly persons who do not have access to the aforementioned benefits in the largely informal economy (Chamchan 2020).

The Old Age Allowance (OAA) is a progressive measure, with older persons getting a higher allowance with the increasing age (Chamchan 2020). However, the Old Age Allowance (OAA) starts at only 600 baht per month for the 60-69 age group, increasing to 700 baht per month in the 70-79 age group, 800 baht per month for those aged 80-89, and the persons of age 90 and above receive 1000 baht (Chamchan 2020). The Government Savings Fund, which started to operate in 2015, aims to cover the more than 30 million elderly who are part of the informal economy and are still not covered by any schemes (ILO 2016). This allows the workers to provide a wide range of contributions and receive a maximum of 7,000 baht per month when they retire (ILO 2016).

As a result, the number of schemes concerning elderly income security and healthcare continues to rise (Phijaisanit 2021). While it surely does provide benefit to the quality of life and economic security of the elderly, especially compared with the 1990's, more robust, centralized, and direct measures to promote higher life satisfaction are needed in the governmental policy in the coming years (Phijaisanit 2021).

An increase in the old age allowance would require an additional fiscal budget (Chamchan 2020). Therefore, measures to offset the expense have to be introduced, such as encouraging elderly employment. This independent study aims to examine if this policy decision would be fair to the elderly by seeing if there is a

correlation between the elderly receiving income from work and their life satisfaction. A strengthened foundation of the scheme can further contribute to ensuring the Thai elderly's economic resilience.

1.4 Statement of the problem

While Thailand ages, the working-age population of Thailand is also forecasted to decline in the next 20 years from 44 million as of 2018 to 37 million, which is a loss of 15% (NCE 2018). One of the strategies to mitigate this loss is to encourage the elderly to stay employed beyond the current age of retirement, as the elderly are still shown to be healthy within that time due to raised life expectancy and health status (NCE 2018). Moreover, the elderly who remain employed can reap the benefits of staying at the workplace by increasing their income and savings level, maintaining connections with the community and colleagues, and feeling involved and accomplished (HelpAge International & College of Population Studies 2013). In previous studies, these factors were significant determinants of elderly happiness (Hong-Ngam, Ayuwat et al. 2021).

1.5 The objective of the study

Increasing the happiness of older adults is a significant factor in societal development in the aging population (Steptoe 2019). Furthermore, higher happiness among older adults can bring numerous benefits to the country in social and economic aspects (Steptoe 2019).

These benefits include but are not limited to higher health for the elderly, which reduces strain on the medical infrastructure, lower mortality, higher economic participation, and much greater social outcomes (Steptoe 2019). In addition, happier older persons are more likely to share their knowledge with others and create a higher opportunity for knowledge and skill transfers between generations (Steptoe 2019). Finally, employed older persons generate a higher GDP and community outcomes.

The objectives of the independent study can be summarized as follows:

1. To determine the overall level of life satisfaction among the Thai elderly as of 2016.
2. To examine the economic determinants of the level of life satisfaction of the Thai elderly.
3. To introduce policy reform recommendations aimed at increasing the quality of life and the level of life satisfaction of the Thai elderly.

1.6 Research questions

1. What are the overall levels of life satisfaction among the Thai elderly as of 2016?
2. What are the economic determinants of the level of life satisfaction of the Thai elderly?
3. What are the policy reform recommendations aimed at increasing the quality of life and the level of life satisfaction of the Thai elderly?

1.7 Scope of the study

The study aims to analyze the survey responses of older persons, defined as those aged 60 and above. Moreover, the impacts of the aging population will essentially be analyzed based on the demographic transition theory explored above. The study focuses on older persons in the Central area of Thailand, particularly Bangkok, as per survey responders. The scope of the study revolves around an older person's questionnaire conducted by the College of Population Studies called "Population Change and Well-being in the Context of Aging Society" conducted from June to August 2016. The duration of the study aims to be over the scope of 3 months, combining data gathering, analysis, and interpretation.

The limitations of the research scope include the survey format of the responses due to the personal and human factors of the respondents, who may make mistakes in filling the survey or be unwilling to give out the information asked. Moreover, the sample is mainly based in Bangkok, Thailand; therefore, it may not cover the cultures and attitudes in the country's other regions.

1.8 Terms and definitions

Demographic transition is defined as the process of population structure change in response to industrial development and the associated cultural shift, generally characterized by a demographic dividend at first as the birth rates rise in comparison to death rates, followed by an increased number of older persons due to the falling birth rates and the delayed cultural shift (Caldwell 2006).

The ageing population is defined as changes in the age composition of the population due to declining birth rates and rising life expectancy, health, and longevity (UN 2022).

The demographic dividend is defined as the surplus of the working-age population compared to the older and younger dependents, resulting in accelerated economic growth (UN 2020).

Old-age dependency ratio is the number of working-age persons supporting the dependent elderly (usually defined as above 60 or 65) on a country-wide scale (Suriyanrattakorn 2019). It is usually displayed as the share of dependent elderly per 100 working-age population (WorldBank 2022).

Ageism is defined as age-based discrimination in obtaining education, employment, or other services, including healthcare and/or accommodation (UN 2022).

Life satisfaction is defined as the self-evaluation of a person's quality of life (Diener, Lucas et al. 2002).

1.9 Structure of the independent study

The next chapter aims to explore the concepts and theories which could be utilized in defining the happiness of the elderly. The chapter aims to build the conceptual framework of the independent study. The next chapter also explores the relevant literature on economic factors and elderly happiness.

In addition, the chapter includes the methodology, source of the data, structure of the data, and operational variables utilized in the independent study. The third chapter provides the empirical results and aims to explain the findings generated after putting the data through statistical methods and analysis.

The last chapter provides the policy implications of the research. It aims to recommend further improving the quality of life, happiness, and life satisfaction of the elderly in Thailand.

1.10 Conclusion

This independent study aims to find the economic variables that are associated with elderly happiness. As the life expectancy is increasing, so does the number of the elderly themselves. This trend is also coupled with the recent decrease in the happiness level of Thai people. This independent study aims to empower older persons by determining whether their source of income affects their life satisfaction, further promoting active aging in the population and encouraging freedom of choice for older persons. The study hopes to identify economic factors that would be beneficial for both the elderly themselves and the societal development at large. The study expects to find concrete variables that are responsible for the economic aspect of elderly happiness. With the right policy actions and the knowledge gained from this independent study, new measures can be proposed as a focal point for future economic policy and program decisions. As a result, this study aims to identify and suggest policy decisions that could be implemented due to its findings. For example, suppose the government addresses the baseline of the economic needs of the elderly. In that case, this demographic

will flourish and bring great benefit to society by means of education, collaboration, and socio-political development contributions.



Chapter 2 Literature review

2.1 Introduction

This section aims to explore the economic factors associated with elderly happiness and provide the foundation for the research in connection with economic factors and Thai elderly happiness. Several theories are proposed in relation to the level of happiness as persons move into older age.

The importance of happiness in the elderly age cannot be underestimated, especially in the context of the aging population phenomenon currently happening in Thailand and across Southeast Asia, and the share of the elderly population has increased at an unprecedented rate in history. Therefore, the policymakers should prioritize the demographic of the elderly in order to uphold sustainable development in Thai society in the future. In addition, income is not the only economic factor playing a role in the happiness of the elderly, which will be further explored in the following literature review.

A wide variety of studies have focused on the elderly and life satisfaction. Notably, researchers have found that, as people age, a decrease in their subjective well-being and quality of life (Cristian, Vanessa et al. 2004, Frijters and Beaton 2012). This decrease could be explained by retirement, lack of community involvement, and declining health (Cristian, Vanessa et al. 2004, Jopp and Daniela 2006, Phathinan, Saksith et al. 2022).

Other studies have observed a positive link between aging and life satisfaction (Witt, Lowe et al. 1980, Delhey 2004, Jopp and Daniela 2006). It could be explained by an accumulation of income and assets, which allow for higher control of day-to-day life (Witt, Lowe et al. 1980, Delhey 2004, Lacey, Smith et al. 2006). Several factors have been identified as explanations for the life satisfaction of the elderly. These include age, gender, income, physical and mental health, access to social support from the government, control of daily life, and physical and social activities (Jopp and Daniela 2006).

2.2 Concept and theory

2.2.1 Level of income

In recent years of research, it has been suggested by numerous studies that the level of income plays a significant role in determining the happiness of the elderly all around the world (Easterlin and Schaeffer 1999, Diener and Shigehiro 2000, Easterlin 2001, Diener, Lucas et al. 2002, 2018, Suriyanrattakorn 2019, Hong-Ngam, Ayuwat et al. 2021), including the happiness and life satisfaction of the elderly in Thailand in particular (Hong-Ngam, Ayuwat et al. 2021).

Meanwhile, when reviewing the level of income at country and national levels, research has found that the level of income has an even higher impact on life

satisfaction than in the case of reviewing on an individual basis (Inglehart 1997, Veenhoven 2000).

However, some of the research had found only a slight link between income and elderly life satisfaction, with other factors such as health taking a more significant place (Diener and Shigehiro 2000). Happiness and life satisfaction were also found to be a means to live life comfortably. However, it is only a step in achieving happiness (Pichler, Moura et al. 2019). Money was found to reduce anxiety and bring more tranquility (Pichler, Moura et al. 2019).

2.2.2 Source of income

Generally, upon reaching the elderly age, older adults have to supplement their income lost from retirement with other sources (Spratlin and Holden 2000). The sources include relying on children, self-employment, pensions, government assistance and donations, savings, and income from renting out assets (Quinn 1985, Johnson, Smeeding et al. 2005).

However, as the elderly live longer, the income from savings may not supplement all of their lifestyle (Spratlin and Holden 2000). Sources of income were found to be a significant factor in terms of economic status and happiness (Quinn 1985, Rudkin 1994, Chou, Chi et al. 2004, Johnson, Smeeding et al. 2005).

Economic dependents were found to harm the happiness of the Indonesian elderly in Southeast Asia while receiving income from children was positive (Rudkin 1994). Moreover, in terms of the income sources in Hong Kong, persons who relied on welfare or were independent in supporting themselves with their income were more likely to have symptoms of depression (Chou, Chi et al. 2004).

In mainland China, one of the most significant and vital income sources was pensions, and the distribution of the unequal pension was identified as one of the significant culprits of income inequality (Li, Wang et al. 2020). Depression has been linked to receiving income from donations or charity in Iran (Majdi, Mobarhan et al. 2011). Meanwhile, older persons receiving income from personal wealth, such as assets and savings, as well as pensions, were shown to have a lower rate of depression (Majdi, Mobarhan et al. 2011).

The amount of monthly household income was a significant factor in the happiness and life satisfaction of elderly Singaporeans (Hong and Han 2013). It would be valuable and beneficial in other policy responses to the aging population in Thailand to find out what weight numerous sources of income have on the life satisfaction and happiness of the elderly population in the case of Thailand.

2.2.3 Assets

Assets are another crucial part of the economic factors associated with elderly happiness. Real tangible assets, such as housing, were related to higher life satisfaction of middle to high-class elderly Singaporeans, while assets such as bonds and shares were not (Hong and Han 2013). This could be correlated with how the society around elderly persons would perceive the income level.

For instance, the social perception of the income of the elderly could hold more weight in the life satisfaction equation than the objective assets and debts. Hence, the aforementioned study does not consider debts and does not come to an objective measure of the monetary state of the elderly when addressing life satisfaction. Meanwhile, elderly persons with lower incomes and a low quantity of assets were more satisfied with their life than their younger equivalents (Cid, Ferrés et al. 2008).



2.3 Relevant research

2.3.1 Foundational research

An integral piece of research that the current independent study is based on is the “Report of the Situation of the Thai Elderly,” which was overseen by the National Committee for the Elderly (NCE 2018). The report was published in 2018; therefore, it is a recent overview of the country-wide situation by a reputable

authority. The report, as mentioned above, comprehensively summarizes vital statistics and figures associated with the challenges of the Thai elderly in modern times, ranging from healthcare to employment and financial challenges (NCE 2018).

This report provides the groundwork to illustrate the current situation of older persons in the country, as well as suggests how to address the issues associated with the aging population and the decrease of the working-age population (NCE 2018). The report also aims to provide policy recommendations for Thailand sustainably and successfully functioning in its “completely aged society” stage (NCE 2018), a goal that is shared with the current research paper. A limitation of this overview could be that it had been published prior to the escalation of the COVID-19 pandemic, therefore inadvertently not taking into account its effects on the elderly of Thai society.

Another foundational report includes the publication provided by the HelpAge international and College of Population Studies, which provides the groundwork for learning about the key statistics and figures currently associated with the trends of the Thai elderly persons (HelpAge International & College of Population Studies 2013). The report's strengths include the comprehensive framework and the abundance of information. In addition, this report also looks into the future trends associated with the aging population in Thai society, as well as the socioeconomic impacts of the aging population phenomenon.

The limitations are that the report is slightly outdated. However, the significant findings and trend observations remain to this day, and the report accurately predicted some significant societal and demographical trends associated with the aging population.

Finally, the International Labor Organization conducted a report on the pension schemes of Thailand and recommended possible reforms and improvements to the pension-related plans currently available in the country (ILO 2022). Moreover, the report served as some groundwork for the recommendations and evaluations provided in the conclusion of this independent study.

2.3.2 Level of income

The link between the economic factors and the level of life satisfaction has been studied previously by numerous researchers. The income level is a significant predictor of higher happiness or life satisfaction, explored in numerous studies and previous research works. The income level had consistently appeared as one of the important factors predicting higher happiness in previous studies. A number of works have linked happiness and income (Easterlin and Schaeffer 1999, Diener and Shigehiro 2000, Easterlin 2001, Diener, Lucas et al. 2002, 2018, Suriyanrattakorn 2019, Hong-Ngam, Ayuwat et al. 2021).

In addition, researchers have been looking at the significance of income and further economic factors, like the ones explored in this study in the past, over longitudinal periods (J., Kevin Stones et al. 1986). R. A. Easterlin first established the paradox of happiness increasing only up to a certain point with the increase in income (Easterlin 2001), which means that the level of happiness will only reliably increase up to a certain income bracket. When the basic income demands are satisfied, the desire for more income is replaced with other needs, so more income would not reliably increase happiness (Easterlin 2001, Toshkov 2021).

However, up to a certain point in the upper-middle class, income remains a significant predictor of happiness across various studies (Easterlin 2001, Toshkov 2021). Beyond the level of income, other economic factors must also be considered in playing a role in life satisfaction. On the other hand, later research found that income's impact on happiness may be underestimated (Kapteyn, Smith et al. 2013).

Suriyanrattakorn (2019) focused on the level of life satisfaction of older persons who have to face disabilities as a challenge to their daily life. This study re-emphasizes the importance of income as a happiness factor across all populations of the country, showing that one of the main happiness-defining factors is household income (Suriyanrattakorn 2019). This independent study aims to delve deeper into elderly happiness concerning income, particularly finding the connection between the level of elderly happiness and the source of income. The limitations of this study

are that the data is mainly obtained from the Udon Thani province of Thailand. In contrast, the current survey obtains data from the Bangkok region of the country. To further expand on that point, the elderly in the two regions may have different socioeconomic and cultural values and measures of the happiness paradigm.

Toshkov (2021) suggests that according to the U-shaped theory of happiness concerning age, happiness level in older age, particularly, is highly dependent on income. To further elaborate on that, it has been established that for low-income groups of the population studied, and happiness tended to decline in middle age and bounce back only slightly with older age. As a result, the happiness curve resembles the “hockey stick” shape (Toshkov 2021).

However, within the middle-income bracket, while happiness also declined as the persons observed in the study reached middle age, it was able to bounce back at a much higher rate compared to the low-income group, with the happiness curve resembling a U-shape (Toshkov 2021). Interestingly, within the high-income bracket, happiness levels did not significantly change throughout life (Toshkov 2021). This study further proves the relationship between happiness and income (Toshkov 2021).

Moreover, different income brackets experienced a diverse uptick in happiness as they got older, proving that the happiness increase seen in older age can sometimes be multiplied with increased income (Toshkov 2021). If older persons had

more mobility in their choice of whether or not to earn income as they age, it could give them more freedom to take control of their wellbeing (Toshkov 2021). The limitation of this study's findings may be that the scope of research is outside Thailand, where the elderly may have different attitudes. Moreover, the U-shaped happiness curve concerning older adults is a theory not universally supported by all social scientists in the field but rather a debated topic (Toshkov 2021).

Ford (2022) has found that in the southmost province of Thailand, wealth and family support were significant predictors of higher life satisfaction and happiness among the population. The study analyzed a primarily Muslim population in the Southern provinces (Ford, Aree et al. 2022). Moreover, social and community support also contributed to higher happiness and life satisfaction, especially in the coronavirus pandemic (Ford, Aree et al. 2022).



2.3.3 Source of income

Previous research has long established the link between being engaged in work and the influence on life satisfaction (J., Kevin Stones et al. 1986, Chan, Ofstedal et al. 2002, Easterlin 2003, Chernova and Ball 2008, Hsiao-Chien 2014, Kolosnitsyna, Khorkina et al. 2017, Radhika and Ramachandran 2021). For example, Singaporean elderly women, in particular, become less happy when they stop being

engaged in work (Chan, Ofstedal et al. 2002). As a developed Southeast Asian country, Singapore could be a window into the future of Thailand as the aging population ages. In addition, research has suggested that there may be differences between how males' and females' life satisfaction changes in response to employment, with males willing to be engaged in employment to a higher degree (Chan, Ofstedal et al. 2002).

Li et al. (2020) found that the main culprit of economic inequality and the associated life satisfaction among the elderly of mainland China was the disparity in access to pensions (Li, Wang et al. 2020). The research suggested that improving the pension system would give the Chinese elderly a higher degree of control over their life, as well as tranquility and freedom to pursue a higher degree of happiness that comes from meeting one's basic needs (Chou, Chi et al. 2004).

Thadchai (2018) finds that elderly employees report a high level of happiness in their adaptation to work as well as their work performance. Meanwhile, their readiness and preparation for retirement remained moderate (Thadchai 2018). These findings may suggest that the elderly still receive a high level of happiness from being at work (Thadchai 2018). In this independent study, one of the sources of income to be discussed with affecting the elderly happiness level is the income from working (Thadchai 2018).

Therefore, it may be suggested that even in older age, such as 60 and above, the elderly may receive a higher level of satisfaction from receiving income from working in comparison to other sources of income. However, the limitations found in the study concerning the current research paper are that the primary sample is from working older persons aged between 40-59.

Therefore, the “Adaptation, Positive Thinking, and Happiness in Work Performance Affecting Preparation to Enter Elderly Social Society” paper may suggest the possible result of this independent study’s findings. Moreover, the article only covers a single company with a sample size of n=230 (Thadchai 2018). Older persons or persons close to retirement working in other companies may face discrimination and feel different compared to the Siam City Cement Public Company employees, who may have a solid working culture in relation to older persons. As a result, these findings can be used as a suggestion for a more in-depth dive into the effect of the source of income on elderly happiness.

It should be considered that the elderly in different cultures and countries feel differently about financial independence regarding happiness. For example, Radhika (2021) reported that the Japanese elderly have higher happiness when not depending on children for their income. Meanwhile, the Indian elderly were the opposite (Radhika and Ramachandran 2021). This may occur due to the different socio-cultural values in each country.

Boontoch (2017) discovered that one of the significant causes of the distress of the elderly is the inability to earn income. The inability to earn income limits the opportunity of the elderly to pursue their life freely. (Boontoch and Nuntaboot 2017). This supports the current independent study research hypothesis, stating that the elderly, whose income source is work, tend to be happier than other income sources (Boontoch and Nuntaboot 2017).

In the current Thai societal structure and the Southeast Asian region, several barriers exist for the elderly to keep working after retirement (NCE 2018). However, the will to retire might not be universal. The elderly may want to take control of their life into their later years instead of depending on government transfers, savings, or transfers from the family. The study's limitations may be that it covers the North of Thailand, which differs from the research proposal.

Receiving income from donations was shown to negatively impact happiness in the case of the Iranian elderly (Majdi, Mobarhan et al. 2011). This was especially significant in the case of men in comparison to women. On the other hand, receiving income from renting out the property, savings, or family members correlated positively with the life satisfaction and those elderly were shown to be at a lower risk of depression (Majdi, Mobarhan et al. 2011).

2.3.4 Assets

Hong-Ngam (2021) conducted a study addressing the impact of assets, among other factors, on the happiness of the elderly in Thailand. The study examines a sample of elderly people in two northeastern Thai provinces (Hong-Ngam, Ayuwat et al. 2021). The aforementioned study discovered that income, physical, human capitals, and access to savings are among the main determinants of elderly happiness among the cohort, followed by self-esteem and self-actualization, as well as relationships with family members and having a stable and sustainable, long-lasting way of life (Hong-Ngam, Ayuwat et al. 2021). This study reaffirms the expectation that one of the main determinants of Thai elderly happiness is income (Hong-Ngam, Ayuwat et al. 2021), which is one of the main principles of the significance of the current study.

The paper provides invaluable relevant insights into the importance savings and access to economic capital have in elderly happiness (Hong-Ngam, Ayuwat et al. 2021). However, some limitations of this particular paper include the focus being on the elderly in two northeastern provinces of Thailand. Furthermore, the limitations are regarding the primary sample of data for this independent study being collected and surveyed from the Bangkok region of Thailand. Therefore, older persons in Bangkok may have different values than those in the northeastern provinces.

Hong and Han (2013) analyzed the assets and their impact on happiness among the Singaporean elderly. They concluded that tangible assets significantly impact happiness, while intangible liabilities, such as debt, have an insignificant effect on happiness (Hong and Han 2013). This suggests that in the case of this independent study, tangible assets would have a higher significance in determining the life satisfaction level of the Thai elderly compared to intangible assets.

Indeed, Yiwei (2013) determined that happiness and life satisfaction may come from the comparison of oneself with the past self, as well as with the outward perception of one's financial situation in the case of Chinese adults (Yiwei 2013).

An analysis of married adult women in Korea has also found that tangible assets were preferable to intangible assets in measuring life satisfaction and happiness (Han and Kim 2014). This gives an insight from another Asian country to supplement the literature review of this independent study. Interestingly, assets were found to be more important than income in the case of marital life satisfaction (Han and Kim 2014), proposing the theory that there is a sizeable economic pressure on the husband to provide assets in Asian countries.

Kim (2021) has found that Korean workers with disabilities score higher in their life satisfaction when they possess a more considerable amount of financial assets. Therefore, financial literacy programs and savings plans were vital in determining the

life satisfaction of Korean workers with disabilities, many of whom are elderly (Kim 2022).

Table 1 below summarizes the literature review above. It aims to summarize and highlight the most relevant parts of the above literature review and bring a higher level of structure to the independent study. By analyzing this table, it was possible to find key trends and developments in the economic factors associated with the happiness of the elderly. While the table prioritizes recent sources, older sources are also necessary when discussing the theories related to elderly happiness. While the table has a lot of matching and correlating trends, some researchers have different opinions regarding the numerous economic factors pertaining to elderly happiness discussed in this independent study.

2.3.5 Literature review summary

Table 1. Literature Review Summary

Author/Publication	Year	Journal	Purpose	Key Findings
Foundation of Thai Gerontology Research and Development Institute	2018	National Committee for the Elderly (NCE)	To overview and facilitate the policy development in response	Crucial and core statistics on the Thai elderly include the percentage of the

			to the rapidly aging population of Thailand.	elderly in the population and the future prognosis of the situation's development.
ILO	2022	International Labor Organization	To analyze of pension schemes in Thailand.	The report analyzes the pension schemes in Thailand as of 2022. It provides future guidance and policy recommendations on developing a sustainable pension scheme that will reliably and more securely cover Thai people as a more significant subset of the population.

<p>HelpAge International & College of Population Studies</p>	<p>2013</p>	<p>HelpAge International & College of Population Studies Chulalongkorn University</p>	<p>To analyze the demographic trends and possible futures associated with the aging population in Thailand.</p>	<p>The report provides recommendations and guidance on what possible structural, societal, and political reforms could be implemented to address the aging population and what aging population means for sustainable development.</p>
<p>Yiwei, Z.</p>	<p>2013</p>	<p>Clemson University, TigerPrint</p>	<p>To examine the possible impact of assets and income on the well- being of the elderly.</p>	<p>In relevance to this independent study, the work by Yiwei (2013) finds that the elderly were more likely to exhibit higher life satisfaction in the</p>

				cases where it was possible to show the assets and well-being externally.
Suriyanrattakorn, S.	2019	Thailand and The World Economy	To define and overview the factors affecting the happiness of the disabled elderly in the Udon Thani province, Thailand.	Income and savings are among the key factors defining the level of happiness of the disabled elderly studied. This allows for further exploring the effect of the source of income on happiness.
Thadchai, N.	2018	Human Behavior, Development, and Society	To discover the level of older adults' adaptation to work and work performance	The study finds that older persons can thrive at work and have a high degree of satisfaction with their performance

			<p>indicators in the 40-59 cohort.</p>	<p>and work integration. However, far from all of them are adequately prepared for retirement. Therefore, a suggestion could be made to extend older persons' opportunities to work.</p>
<p>Boontoch, K. & Nuntaboot, K.</p>	<p>2017</p>	<p>Journal of the Psychiatric Association of Thailand</p>	<p>To discover the significant leading causes of mental distress in the Thai elderly in the Upper North region of the country to</p>	<p>The study identifies a significant cause of distress in the surveyed region among the elderly cohort: the inability to earn income. It could be caused by ageism, lack of</p>

			address the care-related policy in the country's future properly.	legislative routes, and the elderly not having sufficient opportunity to find and acquire employment for a more independent livelihood.
Toshkov, D.	2021	Journal of Happiness Studies	To analyze the “U-shaped” happiness curve theory, suggesting that in older age, persons tend to become happier and present a higher degree of life satisfaction.	Older persons with low economic means tend to be less happy than older persons of middle income or high income. The predicted happiness increases in older age were significantly lesser in persons of low income. This may

			<p>However, income level can accelerate or decrease that suggesting increase in happiness.</p>	<p>suggest a research avenue for older persons working in order to increase their happiness level.</p>
Easterlin, R.	2001,1999, 1995, 2003	The Economic Journal, The Self and Society in Aging Processes	To establish the link between income and happiness and life satisfaction.	<p>According to the finding by Easterlin, the link between the level of income and life satisfaction remains strong into the upper middle class, but weakens in the highest income brackets.</p> <p>Moreover, Easterlin also explores the link between assets</p>

				and the level of happiness and life satisfaction.
Kapteyn, et. al.	2013	International Association for Research in Income and Wealth	To examine the link between the level of life satisfaction and financial and economic factors.	The impact of income on the happiness level may be underestimated, meaning that income remains a significant factor in determining happiness into the high-income groups.
Chan, A.,Ofstedal, M. Hermalin, A.	2002	Social Indicators Research	To examine the happiness of the Singaporean elderly and the associated economic factors.	In relevance to this independent study, the research finds that Singaporean elderly are happier and have a higher life satisfaction while

				being engaged in work versus not.
Diener, E.	2000	Culture and Subjective Wellbeing	To examine the link between income and subjective wellbeing.	Higher-income was correlated with a higher happiness level, subjectively reported by the respondents.
McNeil, J.	1986	Social Indicators Research	To examine the leading indicators of happiness among the population.	This research identifies financial factors as playing a part in the happiness of the population.
Radhika, R.		International Journal of Humanities and Social Science	To examine the happiness of Indian elderly women and specifically focuses on the factors of	Indian elderly women were happier when being financially cared for by their children, which differs from the data reported

			income.	from other Asian countries, such as Japan.
Kolosnitsyna, M.	2012	Ageing International	To examine the happiness and life satisfaction components of the Russian elderly.	Income was found to be a significant factor among the satisfaction components of the Russian elderly. This study aids in the fulfillment of the full picture for this research paper as a sample from North Asia.
Hsiao-Chien, T.	2014	In Journal of Policy Modeling	To examine the link between income and happiness among	The study was examined Taiwanese people and determined that Taiwanese people are

			Taiwanese people.	happier with increased objective income. Moreover, average societal income, as well as perceived level of income, determine happiness.
Li, J.	2020	China Economic Review	To examine the pension system of China and its possible discrepancies, especially in relation to rural persons.	The study finds that the lack of pension provision is likely responsible for some of the income gaps we see in China.
Kim, J.	2021	Journal of Social Service Research	To examine the factors that contribute to the happiness	The study finds that income and assets play a significant positive role in the

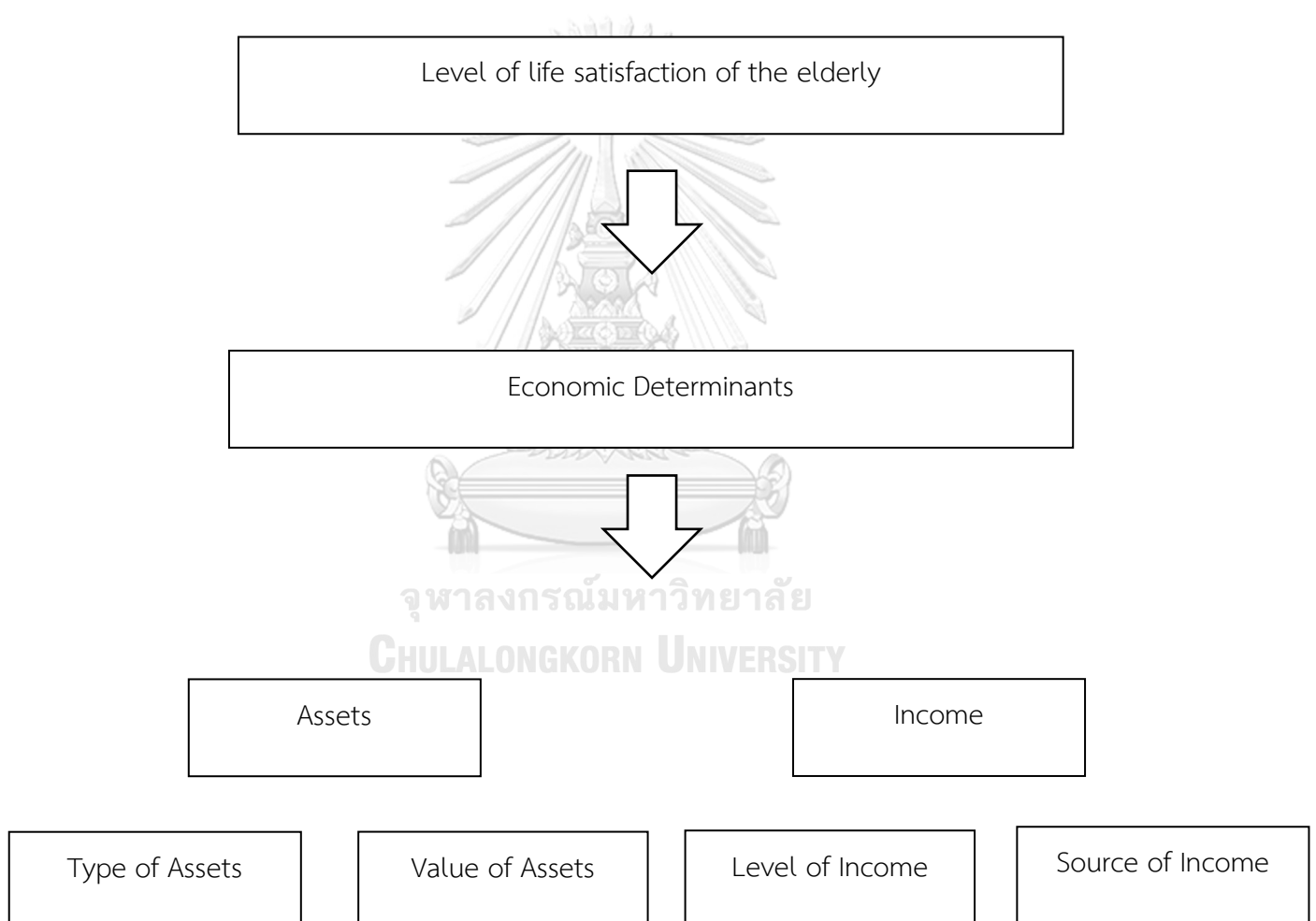
			of workers with disabilities in Korea.	contribution to the happiness equation of the workers with disabilities in Korea. The study also especially singles out savings as one of the essential sources of life satisfaction and happiness and recommends that workers with disabilities be provided a savings plan and savings initiatives.
Majdi, et. Al.	2011	Iranian Journal of Psychiatry and Behavioral Sciences	To identify factors contributing to depression among the Iranian elderly.	The study finds that receiving income from donations contributed to depression among the Iranian

				elderly. However, it also finds that receiving income from savings and interest payments on savings has the opposite effect on the Iranian elderly.
Hong, S. & Han, C.	2013	Social Indicators Research	To examine the impact of assets on life satisfaction in Singaporean elderly.	The study finds that easily liquifiable and accessible assets positively impact the happiness of the elderly.
Pichler, et. al.	2019	Rev. Bras. Geriatr. Gerontol.	To examine the current theories of a financial impact on the life satisfaction and	The study finds that while income can provide the baseline for life satisfaction and reduce anxiety, it will not bring a higher and

			happiness of the elderly.	absolute level of happiness.
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Source: Compiled by the author.

2.4 Conceptual Framework



Source: Compiled by the Author

Figure 2.4 constitutes the common trends found in the literature review for the economic aspect of the equation of life satisfaction and happiness. Assets, including the value of assets, level of income, and source of income encompass the most frequently seen trends in the literature overlooking the happiness of elderly adults. However, happiness does not end with only the economic aspect, as it may just be the basis of life satisfaction. Factors related to health and mobility, as well as societal factors such as the relationship with family and being involved in the community, are also integral parts of the happiness of the elderly.

2.5 Conclusion

In conclusion, this chapter examined and summarized the relevant literature on happiness and life satisfaction among the elderly, especially prioritizing the Asian and Southeast Asian regions. Some of the core themes found as a result of the literature review are that a high income is likely to have a positive impact on life satisfaction. However, a lower income does not necessarily have a severe negative effect. Moreover, tangible and liquifiable assets and assets that can be shown to others bring a higher degree of life satisfaction to the elderly. In addition, work as a source of income can sometimes but not always bring life satisfaction, depending on the demographic. To further expand on that, receiving income from relatives correlates significantly with higher life satisfaction. Finally, receiving income from

donations can sometimes contribute to a negative impact on happiness and life satisfaction.



Chapter 3 Data and methodology

3.1 Introduction

This section provides an in-depth look at the methodologies and the data used in the study. The section provides a comprehensive overview of the statistical methods used to analyze the data. In addition, this section serves as a guide to the distribution of the findings and provides a summary of the descriptive statistics used in the independent study.

3.2 Data

3.2.1 Model of the study

There are several possible present primary sources of income that the Thai elderly may obtain that are included and overviewed in the College of Population Studies survey. These include government living allowance, work, government lump sum payment, pension, interests/saving/assets, spouse, son, daughter, own spouse's parent, own spouse's sibling, relatives, donations, and others.

Moreover, the sum of income is also overviewed in the survey and must be considered. There are several income brackets, and therefore it should be distinguished that some sources of income may provide a higher amount of money, making the older person happier. In addition, the survey also covers a question of

satisfaction with the financial situations of the older persons surveyed, another critical factor to be discussed in this research paper.



3.2.2 Descriptive statistics

Table 2: Descriptive statistics

Happiness	Very Unhappy	45	1.0%
	Unhappy	80	1.7%
	Moderate	890	18.9%
	Happy	1733	36.7%
	Very Happy	1968	41.7%
Asset Net Wroth	0-49,999 Baht	369	7.8%
	50,000-99,999 Baht	658	14.0%
	100,000-499,999 Baht	1819	38.6%
	500,000 Baht and Above	1870	39.7%
	Total Income	Below 10,000 Baht	80
10,000-19,999 Baht		252	5.3%
20,000-49,999 Baht		730	15.5%
50,000-99,999 Baht		751	15.9%
100,000-499,999 Baht		1782	37.8%
500,000 Baht and Above		620	13.1%
Gender		Male	2037	43.2%
	Female	2679	56.8%

Table 2: Descriptive statistics (contin.)

		N	Marginal Percentage
Religion	Buddhist	4540	96.3%
	Christian	47	1.0%
	Muslim	118	2.5%
	Not religious	10	0.2%
Reported Health	Good	1467	31.1%
	Moderate	1891	40.1%
	Bad	986	20.9%
	Very Bad	108	2.3%
	Very Good	264	5.6%
Age	70-79	1394	29.6%
	80 and above	345	7.3%
	60-69	2907	61.6%
		4716	100.0%

Source: Author

As provided in Table 2, the total number of samples surveyed is 4716. The life satisfaction levels in this study were divided into five categories from the ten

categories present in the survey. The five categories in the present study are Very Unhappy, Unhappy, Moderate, Happy, and Very Happy. Very Unhappy accounted for just 1%, Unhappy was 1.7%, Moderate was 19.9%, Happy was 36.7%, and Very Happy was 41.7%. Overall, the percentage of the happy Thai elderly observed in the survey was 78.4%.

The total asset net worth was broken down into 12 categories in the original survey. Meanwhile, this study breaks the asset net worth brackets into 4 categories, being 0-49,999 baht (7.8%), 50,000-99,999 Baht (14.0%), 100,000-49,999 Baht (38.6%), and 500,000 Baht and Above. (39.7%)

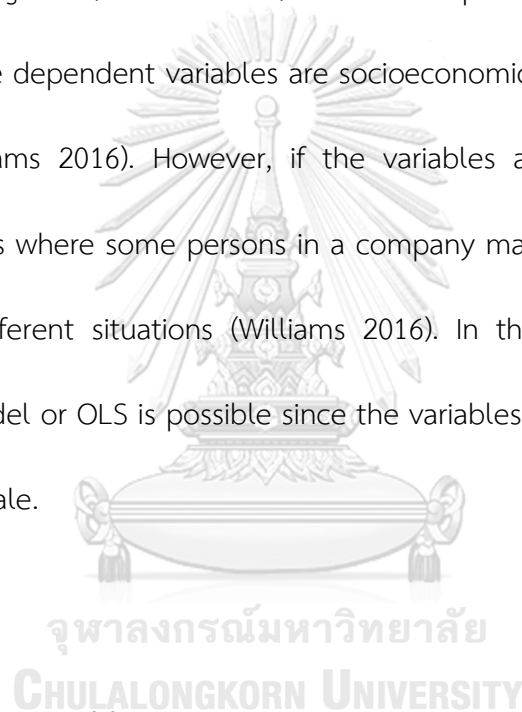
The household's total annual income was initially broken down into 14 categories. In the case of this study, the total annual income brackets were broken down into six categories. The first category was Below 10,000 Baht, accounting for 1.7% of the respondents surveyed. The second category was 10,000-19,999 Baht, accounting for 5.3% of respondents. 20,000-49,999 Baht accounted for 15.5% of the elderly surveyed. Furthermore, 15.9% of the Thai elderly reported having a household income of 50,000-99,999 Baht. 100,000-499,999 Baht bracket accounted for 37.8% of the elderly, with 13.1% of the elderly having household earnings of 500,000 Baht and Above.

Additional variables included gender, reported age, physical health, and religion. The gender distribution was shown to be slightly uneven in favor of females. This may be due to females' higher life expectancy compared to males.

3.3 Methodology

The first statistical method of analysis that is planned for the current research project is the Ordinary Least Squares Regression (OLS). This analytical tool is designed to gauge the relationship between a dependent variable and one or several independent variables (Hayes and Matthes 2009). The OLS method estimates the relationship between the dependent variable and several independent variables through the minimization of the square sum of the difference between predicted and observed actual values of the dependent variable (Hayes and Matthes 2009). This result is then presented through a straight line (Hayes and Matthes 2009). Ordinary Least Squares regression is a fundamental methodology widely used in estimating relationships between dependent and several independent variables in social science (Hayes and Matthes 2009). In this case, a dependent variable and several independent variables are present. Therefore, an Ordinary Least Squares methodology is appropriate for a fundamental analysis of the case mentioned above.

The second statistical method of analysis that is planned for the current research project is the Ordered Logit Model, also known as Ordered Logistic Regression. This is a deeper subset of regression analysis, where the dependent variable (Y) is ordered (Williams 2016). The Ordered Logit Model is generally characterized by the dependent variable having a meaningful order and more than two levels or categories (Williams 2016). This technique is frequently used in social sciences when the dependent variables are socioeconomic status, opinion polls, and test scores (Williams 2016). However, if the variables are not truly ordered, for example, job titles where some persons in a company may have similar authority to each other in different situations (Williams 2016). In the current case, using the Ordered Logit Model or OLS is possible since the variables are levels of self-assessed happiness on a scale.



3.3.1 Dependent variable

The dependent variable is the happiness level of older persons in the past year. The independent variables are as follows: the main source of income in the past year, total annual income of the household in the past year, whether or not the older has certain main assets, the value of the older person's assets, along with additional variables being reported health, age, religion, and gender. The

independent variables will be discussed more in the next section of the independent study.

The primary source of information comes from the College of Population Studies survey “Population change and Well-being in the Context of Ageing Society June-August 2016”. The main objective is to determine what economic factors significantly contribute to the happiness of the Thai elderly. The interviewer asked the elderly, “From the score of 0-10, 0 means not happy at all, and ten means very-very happy; how do you rate your happiness level in the past three months?”. In this independent study, the categories were summarized into 5, “Very Unhappy, Unhappy, Moderate, Happy, Very Happy.”

3.3.2 Independent variables

The independent variables had been chosen from the “Population change and Well-being in the Context of Ageing Society June-August 2016” survey based on the literature review. The independent variables used in this independent study are as follows:

Gender: Gender is assigned to the person at birth. Currently, this can be either male or female. The gender variable is a dummy variable, with zero being male and one

being female. This does not consider other possible gender identities, making the respondents identify with the binary system.

Age: Age is defined as the number of years the person has lived; in this case, it is a categorical variable. For the purpose of this independent study, age had been separated into categories to get significant empirical results according to the literature on the same subject. Age had been separated into four categories: 60-69, 70-79, 80, 90, and above. Ninety and above was determined to be the cut-off point due to the current life expectancy of the elderly in Thailand. The participants were asked, “How old are you?”. This independent study uses the reported age stated by the participants. Ninety and above was chosen as the reference category.

Religion: The survey participants were asked, “What is your religion?”. In this independent study, religion is a categorical variable, with the choices being “Not religious, Buddhist, Christian, Muslim.” Muslim was chosen as the reference category.

Health: The survey participants were asked, “How do you rate your health in the past week?”. The answers ranged from “Very Good, Good, Moderate, Bad, and Very Bad.” Originally, participants were asked to rate their health from 0 to 10; however, for this study, the variables were separated into five categories, as mentioned above.

Source of Income: Source of income is the source of income reported by the elderly.

The survey participants were asked, “In the past year, did you have income or assets

for living expenses from the following sources?”. This is a dummy variable with the following options: government living allowance, work, government lump sum payment, pension, interests/savings/assets, spouse, son, daughter, own spouses’ parent, own spouses’ sibling, relatives, donations. The dummy variable included No (0) and Yes (1).

Total Income: This variable explores the level of income of the elderly. The elderly survey participants were asked “In the past year, what was the average total income of your household (incl. income of every household member). This question was chosen because according to the literature the household income is more significant than the personal income. This is a categorical variable. 500,000 Baht and above was the reference category.

Assets: In this case, elderly respondents were asked if they have the following assets. “Do you have the following assets?” The answers are dummy variables, with 0 for not having the asset and 1 for having the asset. The assets include savings, gold, bonds/funds/shares, house/condominium, land, car/motorcycle.

Value of Assets: The elderly participants were asked “What is the total value of your assets?”. Initially, there were ten categories of assets. The variable is categorical; therefore, the Order Logit Model provides a higher degree of exploration of the variable. Upon reviewing the literature, these categories were shortened into three

categories, which are the following: 0-49,999 Baht, 50,000-99,999 Baht, and 100,000-500,000 Baht. The last category was determined to be the reference category.

The resulting equations from the Ordinary Least Square Method (OLS) and Ordered Logit Model are discussed below.

$$y_i = \beta_0 + \beta_1 x_i + \beta_2 + \varepsilon_i$$

The estimation model for OLS is given below, including the aforementioned variables.

$$life_satisfaction_i = \beta_0 + \beta_1 assets_i + \beta_2 income_source_i + \beta_3 health_i + \beta_4 income_level_i + \beta_5 assets_value_i + \beta_6 religion_i + \beta_7 age_i + \varepsilon_i$$

β_0 is a constant term (the intercept)

β is the gradient (population slope coefficient)

y is the dependent variable being predicted

x is the independent variable

ε is the error term

This model aims to predict the value of the independent variable utilizing the independent variable, for observation of the i .

In regards to the Order Logit Model, the estimation model can be given as follows:

$$\log \left[\frac{p_i}{(1 - p_i)} \right] = a_i + \beta_1 assets_i + \beta_2 income_source_i + \beta_3 health_i + \beta_4 income_level_i + \beta_5 assets_value_i + \beta_6 religion_i + \beta_7 age_i + \varepsilon_i$$

As there are five possible outcomes (ranging from very happy to very unhappy), the formulas for being very unhappy to very happy are as follows:

$$\log \left[\frac{P1}{(P2 + P3 + P4 + P5)} \right]$$

$$\log \left[\frac{P1 + P2}{(P3 + P4 + P5)} \right]$$

$$\log \left[\frac{P1 + P2 + P3}{(P4 + P5)} \right]$$

$$\log \left[\frac{P1 + P2 + P3 + P4}{(P5)} \right]$$

The dependent variable is an ordinal variable in the Ordered Logit Model, unlike the OLS. We attempt to predict the outcome of the individual after the survey. As a result, this model combines the features of linear regression and classification, as it is not numeric. The term means that higher explanatory variable values are associated with increased odds of being in the high life satisfaction category versus a low life satisfaction category.

3.4 Conclusion

The aforementioned chapter explored the descriptive statistics and the dependent and independent variables viewed in the study. To sum up, the statistical tools used in the study included Ordinary Least Regression and Ordered Logit Model. Two models were chosen in order to ensure higher confidence in the results. In

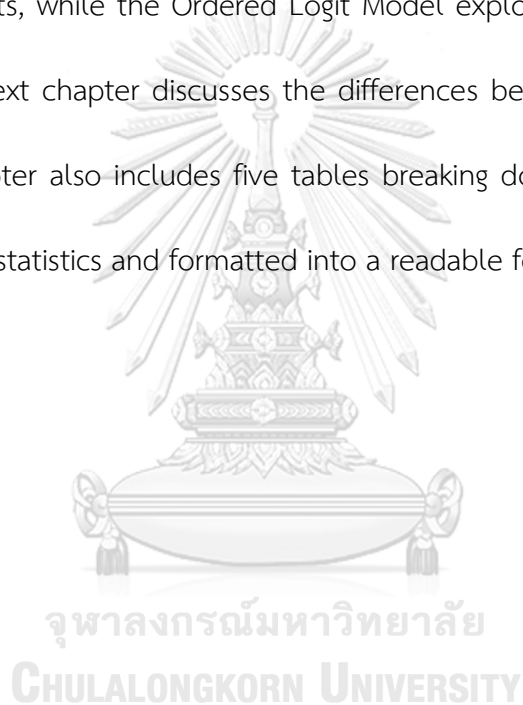
addition, two statistical analysis tools were chosen to take a closer look at the variables using empirical analysis. The next chapter will discuss the empirical results obtained from using these statistical tools.



Chapter 4 Empirical results

4.1 Introduction

The following chapter explores the empirical results of the OLS and Ordered Logit Model regression analysis. The OLS linear regression explores both the male and female cohorts, while the Ordered Logit Model explores both and two cohorts separately. The next chapter discusses the differences between the results of both cohorts. This chapter also includes five tables breaking down the analysis obtained first through SPSS statistics and formatted into a readable format.



4.2 Empirical results

Table 3: Linear Regression: The Case of Thai elders (both sexes)

Linear Regression with Robust Standard Errors

Dependent Variable: Level of life satisfaction.

Parameter	B	Robust Std. Error ^a	t	Sig.	95% Confidence Interval		Collin. Diagnostic VIF
					Low Bound	Upper Bound	
Gender	.043	.027	1.576	.115	-.010	.096	1.079
Reported Age	-.001	.003	-.505	.613	-.007	.004	1.030
Religion	-.012	.034	-.342	.732	-.078	.055	1.979
Source of Income							
Government Pension	-.036	.046	-.789	.430	-.125	.053	1.343
Work	.074	.026	2.825	.005**	.023	.125	1.247
Gratuity	.158	.093	1.702	.089*	-.024	.339	1.090
Private Pension	-.032	.054	-.585	.559	-.138	.075	1.660
Interest on Savings	.022	.029	.768	.443	-.035	.080	1.827

Table 3: Linear Regression: The Case of Thai elders (both sexes) (continue)

Linear Regression with Robust Standard Errors

Dependent Variable: Level of life satisfaction.

Parameter	B	Robust Std. Error ^a	t	Sig.	95% Confidence Interval		Collin.
					Low Bound	Upper Bound	Diagnostic VIF
Spouse	.065	.030	2.167	.030**	.006	.123	1.297
Son	.036	.025	1.418	.156	-.014	.086	2.015
Daughter	.099	.026	3.839	.000***	.048	.149	1.160
Parents	-.128	.158	-.806	.420	-.438	.183	1.032
Siblings	.030	.068	.439	.661	-.103	.163	2.143
Relatives	-.033	.054	-.619	.536	-.138	.072	1.342
Donations	-.340	.247	-1.375	.169	-.824	.144	1.024
Disability	.032	.094	.340	.734	-.152	.216	1.109
Social Security	.136	.164	.832	.406	-.185	.457	1.115
Assets							
Savings	.074	.028	2.626	.009***	.019	.130	1.014
Gold	.104	.027	3.865	.000***	.051	.156	1.059
Bonds	-.019	.038	-.501	.616	-.094	.055	1.059
House	-.039	.033	-1.187	.235	-.104	.026	1.018
Land	-.049	.035	-1.415	.157	-.117	.019	1.030
Car	-.028	.028	-1.020	.308	-.082	.026	1.011
Total Income	-.001	.000	-3.368	.001***	-.002	-.001	1.016
Value of Assets	.063	.019	3.380	.001***	.027	.100	1.023
Health	-.247	.014	-17.367	.000***	-.275	-.219	1.279
R							0.319
R SQUARED							0.101

Source: Author

Table 4: Linear Regression; Both Sexes; ANOVA

ANOVA^a

	Sum of Squares	df	Mean Square	F	Sig.
Regression	350.363	26	13.476	20.365	.000 ^b
Residual	3102.635	4689	.662		
Total	3452.998	4715			

Source: Author



Table 5: Linear Regression: The Case of Thai Older Females

Dependent Variable: Level of life satisfaction.

Parameter	B	Robust Std. Error ^a	t	Sig.	95% Confidence Interval		Collinearity Diagnostics
					Low Bound	Upper Bound	
Reported Age	-.003	.006	-.519	.604	-.015	.009	1.361
Religion	.004	.112	.038	.970	-.215	.224	1.017
Source of Income							
Government Pension	-.053	.153	-.347	.729	-.354	.248	2.035
Work	.098	.080	1.215	.225	-.060	.255	1.203
Gratuity	.129	.419	.308	.758	-.692	.950	1.035
Private Pension	-.117	.201	-.581	.561	-.511	.277	2.023
Interest on Savings	.033	.096	.349	.727	-.154	.221	1.343
Spouse	.124	.095	1.304	.192	-.062	.310	1.062
Son	.131	.077	1.688	.091*	-.021	.283	1.113
Daughter	.195	.079	2.483	.013**	.041	.349	1.115
Parents	-.343	.436	-.786	.432	-1.198	.513	1.017
Siblings	.224	.181	1.239	.216	-.131	.580	1.066
Relatives	-.082	.148	-.552	.581	-.372	.208	1.068
Donations	.091	.601	.152	.879	-1.087	1.269	1.019
Disability	.171	.267	.643	.521	-.352	.695	1.029
Social Security	.249	.549	.454	.650	-.828	1.326	1.021
Assets							
Savings	.171	.086	1.990	.047**	.002	.339	1.356
Gold	.225	.078	2.905	.004***	.073	.377	1.140
Bonds	-.036	.136	-.264	.792	-.303	.231	1.093

Table 5: Linear Regression: The Case of Thai Older Females (continued)

Linear Regression with Robust Standard Errors

Dependent Variable: Level of life satisfaction.

Parameter	B	Robust Std. Error ^a	t	Sig.	95% Confidence Interval		Collinearity Diagnostics
					Low Bound	Upper Bound	VIF
House	-.138	.103	-1.337	.181	-.339	.064	1.739
Land	-.184	.112	-1.645	.100	-.403	.035	2.055
Car	-.085	.093	-.918	.358	-.266	.096	1.193
Total Income	-.001	.001	-1.010	.313	-.004	.001	1.031
Value of Assets	.047	.016	2.981	.003***	.016	.078	2.294
Health	-.544	.042	-13.011	.000***	-.626	-.462	1.073
R							0.305
R SQUARED							0.093

Source: Author

Table 6: Linear Regression: The Case of Thai Older Males

Linear Regression with Robust Standard Errors

Parameter	B	Robust Std. Error ^a	t	Sig.	95% Confidence Interval		Collinearity Diagnostics
					Low Bound	Upper Bound	
Reported Age	-.010	.007	-1.555	.120	-.023	.003	1.301
Religion	.002	.108	.014	.989	-.211	.214	1.028
Source of Income							
Government Pension	-.145	.148	-.980	.327	-.435	.145	2.224
Work	.132	.090	1.458	.145	-.045	.309	1.271
Gratuity	.425	.303	1.402	.161	-.170	1.019	1.036
Private Pension	-.076	.186	-.409	.683	-.440	.288	2.358
Interest on Savings	.088	.108	.814	.416	-.124	.299	1.358
Spouse	.211	.112	1.886	.059*	-.008	.430	1.032
Son	-.024	.084	-.292	.770	-.188	.140	1.128
Daughter	.263	.085	3.108	.002***	.097	.429	1.160
Parents	-.101	.498	-.203	.840	-1.077	.875	1.134
Siblings	-.148	.245	-.606	.544	-.628	.332	1.020
Relatives	-.056	.200	-.278	.781	-.448	.337	1.076
Donations	-2.030	.685	-2.965	.003***	-3.373	-.688	1.075
Disability	-.032	.295	-.109	.913	-.612	.547	1.043
Social Security	.199	.498	.399	.690	-.777	1.175	1.038
Assets							
Savings	.169	.092	1.840	.066**	-.011	.348	1.349
Gold	.133	.102	1.302	.193	-.068	.334	1.260
Bonds	-.038	.138	-.279	.780	-.309	.232	1.102

Table 6: Linear Regression: The Case of Thai Older Males (continued)

Dependent Variable: Level of life satisfaction.

Parameter	B	Robust Std. Error ^a	t	Sig.	95% Confidence Interval		Collinearity Diagnostics
					Low Bound	Upper Bound	
House	-.044	.119	-.368	.713	-.278	.190	1.621
Land	-.011	.115	-.092	.927	-.237	.215	1.789
Car	-.075	.087	-.867	.386	-.246	.095	1.198
Total Income	-.007	.002	-4.170	.000***	-.010	-.003	1.031
Value of Assets	.038	.018	2.163	.031**	.004	.073	1.991
Health	-.591	.046	-12.883	.000***	-.681	-.501	1.067
R							0.352
R SQUARED							0.124

Source: Author



Table 7: The Ordered Logit Regression Model: The Case of Thai elders (both sexes)

		Estimate	Std. Error	Wald	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
Assets	Savings	.145	.065	5.050	.025**	.019	.272	
	Gold	.235	.064	13.355	.000***	.109	.362	
	Bonds/Shares	-.085	.101	.703	.402	-.283	.114	
	House/Condo	-.032	.081	.160	.689	-.190	.126	
	Land	-.106	.082	1.667	.197	-.266	.055	
	Car/Motorbike	-.083	.066	1.602	.206	-.211	.045	
Source of Income	Private Pension	-.188	.143	1.730	.188	-.469	.092	
	Interests on Savings/Assets	.037	.075	.242	.623	-.110	.184	
	Spouse	.100	.075	1.771	.183	-.047	.247	
	Son	.078	.059	1.778	.182	-.037	.193	
	Daughter	.245	.060	16.901	.000***	.128	.362	
	Mother/Father	-.348	.332	1.101	.294	-.999	.302	
	Siblings	.091	.150	.364	.546	-.204	.385	
	Relatives	-.119	.121	.966	.326	-.357	.118	
	Donations	-.745	.455	2.678	.102	-1.637	.147	
	Disability Payments	.022	.202	.012	.914	-.375	.419	
	Social Security Payments	.285	.385	.546	.460	-.471	1.040	
	Government Pension	-.054	.109	.241	.624	-.268	.161	
	Work	.126	.062	4.101	.043**	.004	.247	
	Gratuity	.340	.265	1.645	.200	-.180	.860	
	Value of Assets	0-49,999 Baht	-.259	.142	3.350	.067*	-.536	.018
		50,000-99,999 Baht	-.223	.108	4.229	.040**	-.435	-.010
		100,000-499,999 Baht	-.003	.070	.002	.961	-.140	.133
500,000 Baht and Above		Ref.						

Table 7: The Ordered Logit Regression Model: The Case of Thai elders (both sexes) (continued)

		Estimate	Std. Error	Wald	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Level of Income	Below 10,000 Baht	-.129	.226	.325	.569	-.571	.314
	10,000-19,999 Baht	.214	.147	2.137	.144	-.073	.502
	20,000-49,999 Baht	.249	.110	5.108	.024**	.033	.465
	50,000-99,999 Baht	.300	.110	7.438	.006***	.084	.516
	100,000-499,999 Baht	.433	.097	20.157	.000***	.244	.622
	500,000 Baht and Above	Ref.					
Gender	Male	-.115	.063	3.289	.070*	-.239	.009
	Female	Ref.					
Religion	Not Religious	.550	1.941	.080	.777	-3.254	4.355
	Buddhist	1.758	1.851	.902	.342	-1.870	5.385
	Christian	1.846	1.871	.973	.324	-1.822	5.514
	Muslim	Ref.					
Health	Very Good	2.295	.226	103.185	.000***	1.852	2.738
	Good	1.676	.188	79.207	.000***	1.307	2.045
	Moderate	1.008	.185	29.741	.000***	.646	1.371
	Bad	.543	.188	8.296	.004**	.173	.912
	Very Bad	Ref.					
Age	60-69	-.258	1.086	.057	.812	-2.388	1.871
	70-79	-.175	1.086	.026	.872	-2.304	1.954
	80-89	-.499	1.089	.210	.647	-2.634	1.636
	90 and above	Ref.					

Source: Author

Table 8: The Ordered Logit Regression Model: The Case of Older Females

		Estimate	Std. Error	Wald	Sig.	Lower Bound	Upper Bound	
Assets	Savings	.097	.087	1.264	.261	-.072	.267	
	Gold	.245	.079	9.528	.002***	.089	.400	
	Bonds/Shares	-.084	.140	.362	.547	-.357	.190	
	House/Condo	-.073	.104	.486	.486	-.277	.132	
	Land	-.165	.112	2.161	.142	-.386	.055	
	Car/Motorbike	-.095	.094	1.029	.310	-.279	.089	
	Source of Income	Private Pension	-.199	.208	.916	.338	-.607	.209
		Interests on Savings/Assets	-.021	.098	.047	.828	-.214	.171
		Spouse	.064	.097	.430	.512	-.127	.254
		Son	.129	.078	2.711	.100*	-.025	.283
		Daughter	.181	.080	5.165	.023**	.025	.337
		Mother/Father	-.388	.431	.810	.368	-1.232	.456
		Siblings	.222	.187	1.419	.234	-.144	.589
		Relatives	-.133	.149	.793	.373	-.425	.159
		Donations	.255	.615	.172	.679	-.950	1.460
		Disability Payments	-.021	.098	.047	.828	-.214	.171
Social Security Payments	.222	.187	1.419	.234	-.144	.589		
Government Pension	.013	.153	.008	.930	-.286	.313		
Work	.105	.081	1.668	.197	-.054	.264		
Gratuity	.328	.439	.560	.454	-.532	1.188		
Value of Assets	0-49,999 Baht	-.351	.183	3.674	.055**	-.709	.008	
	50,000-99,999 Baht	-.288	.143	4.055	.044**	-.569	-.008	
	100,000-499,999 Baht	-.154	.094	2.689	.101	-.338	.030	
	500,000 Baht and Above	Ref.						

Table 8: The Ordered Logit Regression Model: The Case of Older Females (continued)

		Estimate	Std. Error	Wald	Sig.	95% Confidence interval	
						Lower Bound	Upper Bound
Income	Below 10,000 Baht	-.440	.279	2.492	.114	-.986	.106
	10,000-19,999 Baht	.000	.188	.000	.999	-.369	.369
	20,000-49,999 Baht	.052	.140	.138	.710	-.222	.326
	50,000-99,999 Baht	.148	.142	1.097	.295	-.129	.426
	100,000-499,999 Baht	.299	.122	5.963	.015**	.059	.539
	500,000 Baht and Above	Ref.					
Religion	Not Religious	-.792	.867	.833	.361	-2.491	.908
	Buddhist	.252	.236	1.142	.285	-.210	.713
	Christian	.432	.451	.917	.338	-.452	1.315
	Muslim	Ref.					
Health	Very Good	2.343	.306	58.755	.000***	1.744	2.942
	Good	1.583	.239	43.846	.000***	1.114	2.051
	Moderate	.906	.233	15.045	.000***	.448	1.363
	Bad	.531	.236	5.042	.025**	.068	.995
	Very Bad	Ref.					
Age	60-69	-.103	.267	.149	.700	-.627	.421
	70-79	.039	.271	.020	.887	-.492	.569
	80-89	-.276	.294	.882	.348	-.853	.300
	90 and above	Ref.					

Source: Author

Table 9: The Ordered Logit Regression Model: The Case of Thai Older Males

		Estimate	Std. Error	Wald	Sig.	95% Confidence interval		
						Lower	Upper	
						Bound	Bound	
Assets	Savings	.216	.099	4.787	.029**	.022	.409	
	Gold	.189	.112	2.839	.092*	-.031	.409	
	Bonds/Shares	-.100	.149	.450	.502	-.392	.192	
	House/Condo	.056	.129	.192	.661	-.196	.308	
	Land	.020	.122	.026	.873	-.219	.258	
	Car/Motorbike	-.082	.093	.769	.380	-.265	.101	
	Source of Income	Private Pension	-.166	.202	.679	.410	-.562	.229
		Interests on Savings/Assets	.112	.118	.899	.343	-.119	.343
		Spouse	.187	.121	2.381	.123	-.051	.425
		Son	.019	.090	.045	.832	-.158	.196
		Daughter	.339	.091	13.782	.000***	.160	.517
		Mother/Father	-.317	.527	.361	.548	-1.350	.717
		Siblings	-.120	.261	.211	.646	-.631	.392
		Relatives	-.093	.213	.191	.662	-.510	.324
		Donations	-2.257	.736	9.412	.002***	-3.699	-.815
		Disability Payments	-.098	.312	.098	.754	-.709	.513
	Social Security Payments	.274	.537	.259	.610	-.779	1.326	
	Government Pension	-.157	.159	.975	.323	-.469	.155	
	Work	.162	.097	2.777	.096*	-.029	.353	
Gratuity	.417	.336	1.535	.215	-.242	1.076		
Value of Assets	0-49,999 Baht	-.111	.233	.229	.632	-.568	.345	
	50,000-99,999 Baht	-.128	.169	.576	.448	-.460	.203	
	100,000-499,999	.161	.105	2.321	.128	-.046	.367	
	500,000 Baht and Above	Ref.						

Table 9: The Ordered Logit Regression Model: The Case of Thai Older Males (continued)

		Estim	Std. Error	Wald	Sig.	95% Confidence Interval	
						Lower	Upper
						Bound	Bound
Level of Income	Below 10,000 Baht	.531	.394	1.821	.177	-240	1.302
	10,000-19,999 Baht	.604	.238	6.466	.011**	.139	1.070
	20,000-49,999 Baht	.605	.183	10.984	.001***	.247	.963
	50,000-99,999 Baht	.569	.179	10.109	.001***	.218	.920
	100,000-499,999 Baht	.676	.160	17.788	.000***	.362	.990
	500,000 Baht and Above	Ref.					
Religion	Not Religion	.341	2.052	.028	.868	-3.680	4.363
	Buddhist	1.670	1.872	.796	.372	-1.998	5.339
	Christian	1.607	1.914	.705	.401	-2.145	5.360
	Muslim	Ref.					
Health	Very Good	2.422	.355	46.514	.000***	1.726	3.118
	Good	1.903	.313	37.038	.000***	1.290	2.516
	Moderate	1.263	.310	16.652	.000***	.657	1.870
	Bad	.625	.318	3.859	.049**	.001	1.249
	Very Bad	Ref.					
Age	60-69	-.301	1.096	.076	.783	-2.449	1.847
	70-79	-.306	1.096	.078	.780	-2.454	1.842
	80-89	-.672	1.103	.371	.542	-2.834	1.490
	90 and Above	Ref.					

Source: Author

4.3 Discussion

4.3.1 Linear Regression: both sexes

The Ordinal and Linear regression models were used in determining whether several economic factors (i.e., assets, total income, source of income, the value of assets), as well as other independent variables, affect the level of life satisfaction of the Thai elderly. There is no multicollinearity, even by conservative estimates, since the VIF values for all variables are below 3. According to Appendix 1, the data is distributed normally. ANOVA analysis had been included in Table 4. Robust standard error was used to address the issue of heteroscedasticity.

In the linear regression analysis (Table 3), the independent variables included the following: whether or not the elderly have certain significant assets, the source of income of the elderly, the level of income of the elderly, the value of assets of the elderly, as well as additional balancing factors such as age, religion, health, and gender. As a result, the linear regression model was statistically significant due to the F value of 20.365 and the p-value of 0.000, with R of (0.319) and R squared of (0.101).

In the category of additional independent variables outside of economic factors, self-reported physical health status was the only significant predictor of the level of life satisfaction ($\beta = [-0.274]$, $p = [0.000]$). Overall, the health variable was a

negative predictor of life satisfaction. However, in the Order Logit Model, different health categories affect the level of life satisfaction differently, as shown below.

It was found that, in the category of assets, the gold variable significantly positively predicted the level of life satisfaction ($\beta = [0.104]$, $p = [0.000]$). Moreover, in the asset category, the savings variable significantly positively predicted the level of life satisfaction ($\beta = [0.074]$, $p = [0.009]$). Savings was a positive predictor of the level of life satisfaction. This coincides with numerous research studies suggesting that tangible and easily liquefiable assets are associated with a significant increase in life satisfaction and happiness across Asia (Hong and Han 2013, Han and Kim 2014, Pichler, Moura et al. 2019, Kim 2022).

The average income of the household variable positively significantly predicted the level of life satisfaction ($\beta = [-0.001]$, $p = [0.000]$). Moreover, the total asset net worth was also found to significantly predict the level of life satisfaction ($\beta = [0.063]$, $p = [0.001]$). The majority of the current literature available on the topic determines that income can boost the U-shaped happiness pattern seen throughout life, making the elderly happier than in their previous adult years (Quinn 1985, Easterlin 2001, Chou, Chi et al. 2004, Chernova and Ball 2008, Hsiao-Chien 2014, Li, Wang et al. 2020, Toshkov 2021). Moreover, specifically among the Asian elderly, income is one of the crucial variables seen in this independent study's literature

review (Chan, Ofstedal et al. 2002, Chou, Chi et al. 2004, Hong and Han 2013, Yiwei 2013, Hsiao-Chien 2014, Pichler, Moura et al. 2019, Li, Wang et al. 2020).

Further categories include the sources of income of the elderly. One of the significant positive predictors of the level of life satisfaction is the source of income from working ($\beta = [0.074]$, $p = [0.005]$). The elderly who are engaged in work were found to be happier due to the freedom it provides them in numerous studies (Thadchai 2018, Hong-Ngam, Ayuwat et al. 2021, Kim 2022, Phathinan, Saksith et al. 2022). In addition, another significant positive predictor of the level of life satisfaction in this category was spouse ($\beta = [0.065]$, $p = [0.030]$). Interestingly, receiving income from the son was not a significant predictor of the level of life satisfaction, while receiving income from the daughter was a significant positive predictor ($\beta = [0.099]$, $p = [0.000]$). Gratuity, as a source of income, was also shown to be a mildly significant predictor of the level of happiness ($\beta = [0.158]$, $p = [0.089]$). In reference to the literature, persons receiving income and being dependent on relatives, especially in the case of women, was shown to be a predictor of higher happiness in the literature review (Rudkin 1994, Majdi, Mobarhan et al. 2011, Han and Kim 2014, Radhika and Ramachandran 2021).

4.3.2 Linear Regression: female

In the case of the Thai elderly females (Table 5), a remarkable finding is that receiving income from the son also becomes significant in addition to receiving income from the daughter. This is supported by the literature stating that women especially are inclined to be happier when being dependents and supported by older children (Radhika and Ramachandran 2021). Receiving income from both the daughter and the son were significant positive predictors of the level of life satisfaction ($\beta = [0.131]$, $p = [0.091]$) ($\beta = [0.195]$, $p = [0.013]$). Although, receiving income from the daughter remains a stronger positive predictor of the level of life satisfaction among Thai elderly women.

4.3.3 Linear Regression: male

Having savings and gold were significant positive predictors of life satisfaction and happiness among Thai elderly women, meanwhile, gold was not as important for the Thai elderly men (Table 6). Moreover, Thai women found happiness in the higher value of assets, but the level of income was not a significant predictor of a higher level of happiness. The finding of women especially finding importance in assets, is supported by other research on counties in the region (Hong and Han 2013, Han and Kim 2014, Kim 2022). Meanwhile, both were significant predictors for Thai elderly males. Although, Thai the value of assets was shown to be a more significant predictor for Thai elderly women ($\beta = [0.047]$, $p = [0.003]$).

Interestingly, having a daughter as a source of income was a more significant positive predictor of higher life satisfaction among men than among women. Moreover, receiving income from the spouse was a significant positive predictor among men ($\beta = [0.211]$, $p = [0.059]$), which is surprising as it was not seen among women. Depending on a spouse is supported by prior research (Rudkin 1994). Receiving income from donations was a strong negative predictor of happiness among Thai elderly men ($\beta = [-2.030]$, $p = [0.003]$). Likely, this is due to possible societal judgement and shame of not meeting the expectations of a patriarchal society (Jansup, Pad et al. 2018, Wongchalard 2019).

4.3.4 Ordinal Logit Regression: both sexes

During the analysis (Table 7), ordinal regression was carried out first on both sexes together, and secondly, only analyzing males and females separately. This was to determine whether or not the two gender categories have different predictors of happiness in terms of economic factors studied, such as income, source of income, assets, the value of assets, etc. (outlined in the tables above and the Conceptual Framework). The ordinal regression was shown to be significant, with the Pseudo R Squares as follows: Cox and Snell (0.103), Nagelkerke (0.115), and McFadden (0.047). Additional independent variables such as gender of the elderly and the reported

health of the elderly significantly affected the happiness level, while religion and age did not.

In the ordinal regression analysis, savings ($\beta = [0.145]$, $p = [0.025]$) and gold ($\beta = [0.235]$, $p = [0.000]$) were again, shown to be significant positive predictors of the level of life satisfaction, compared to all other listed assets. The literature review highly supports this finding, as these types of assets are tangible and easily used (Hong and Han 2013, Han and Kim 2014, Pichler, Moura et al. 2019, Kim 2022). Moreover, these types of assets could be shown externally to others, which is a significant factor (Yiwei 2013).

In the area of the source of income, income received from the daughter ($\beta = [0.245]$, $p = [0.000]$) and work ($\beta = [0.126]$, $p = [0.043]$) were shown to be statistically significant predictors of the level of life satisfaction. Among them, the strongest positive predictor of happiness is if the daughter was the source of income. Numerous studies find relatives and employment to be significant predictors in elderly life satisfaction (Quinn 1985, Rudkin 1994, Chou, Chi et al. 2004, Johnson, Smeeding et al. 2005, Toshkov 2021). However, this is not true for all cultures and genders within the same culture (Pichler, Moura et al. 2019, Radhika and Ramachandran 2021). Some may see employment as a negative predictor while seeing sourcing income from relatives and being dependent as a source of higher life satisfaction (Radhika and Ramachandran 2021).

In the estimated total asset net worth of the elderly independent variables, lower asset net worth associated with lower happiness, but higher asset net worth did not necessarily hold a significance over the level of life satisfaction. Lower total asset net worth of 0-49,999 Baht ($\beta = [-0.259]$, $p = [0.067]$) negatively correlated with level of life satisfaction, along with 50,000-99,999 Baht ($\beta = [-0.223]$, $p = [0.040]$). Higher total asset net worth did not significantly affect the level of life satisfaction. This finding is slightly surprising as most studies maintain that a higher asset net worth up to a certain threshold of the highest earners maintains a high positive impact on the happiness level (Yiwei 2013, Han and Kim 2014, Kim 2022). However, there is research that supports that income and assets are only a part of the equation of happiness, serving as a sort of base for the hierarchy of needs and providing a level of calm and tranquility (Hong and Han 2013, Pichler, Moura et al. 2019, Toshkov 2021). Community work and other resources may help achieve even higher happiness and life satisfaction (Diener and Shigehiro 2000, Diener, Lucas et al. 2002, Pichler, Moura et al. 2019).

Total annual income of the household had a positive impact the higher it was, on the level of life satisfaction, with the income levels of 20,000-49,999 Baht ($\beta = [0.249]$, $p = [0.024]$), 50,000-99,999 Baht ($\beta = [0.300]$, $p = [0.006]$), and 100,000-499,999 Baht ($\beta = [0.433]$, $p = [0.000]$). In this variable category, the higher the income was, the higher the positive correlation with the level of life satisfaction dependent

variable. The prior research on the topic overwhelmingly supports this. Moreover, specifically among the Asian elderly, income is one of the important variables seen in this independent study's literature review (Easterlin 1995, Easterlin and Schaeffer 1999, Easterlin 2001, Chan, Ofstedal et al. 2002, Easterlin 2003, Chou, Chi et al. 2004, Gray, Rukumnuaykit et al. 2008, Hong and Han 2013, Yiwei 2013, Hsiao-Chien 2014, Boontoch and Nuntaboot 2017, Pichler, Moura et al. 2019, Li, Wang et al. 2020, Udomkerdmongkol 2020, 2021, Ford, Aree et al. 2022). Lower-income brackets of Below 10,000 Baht and 10,000-19,999 Baht did not have a significant effect on the level of life satisfaction. In the literature reviewed, it has been found that the elderly are more resilient to lower income than their younger, equally poor equivalents, which supports this finding (Cid, Ferrés et al. 2008).

4.3.5 Ordinal Logit Regression: female

In the Ordinal Regression analysis for the female samples only (Table 8), gold significantly positively predicted a higher level of life satisfaction ($\beta = [0.245]$, $p = [0.002]$). Gold was a significant positive predictor of the level of life satisfaction. Meanwhile, other predictors, including savings, were not significant regarding females' life satisfaction levels. This is supported by the literature discussed above (Hong and Han 2013, Boontoch and Nuntaboot 2017, Pichler, Moura et al. 2019, Suriyanrattakorn 2019, Hong-Ngam, Ayuwat et al. 2021, Ford, Aree et al. 2022, Kim

2022, Phathinan, Saksith et al. 2022). To further expand on that, this could also include the freedom provided by having gold as an asset. This is due to the investments that are easy to acquire and liquify, contributing positively to happiness (Hong and Han 2013, Pichler, Moura et al. 2019), which could be incredibly accessible to women. A major part of this could also be the external validation from being able to present as wearing gold and being perceived as having high-value assets (Hong and Han 2013, Yiwei 2013). Savings were not shown to be a significant predictor as in the case of males. This could be due to relying upon a spouse for savings (Han and Kim 2014, Radhika and Ramachandran 2021).

Moreover, in the source of income category, the daughter had significantly positively predicted a higher level of life satisfaction ($\beta = [0.181]$, $p = [0.023]$). For women, the relationship with the daughter is probable to be even more highly significant than for men. The importance of receiving income from relatives and being dependent has been overviewed in the above sections. Notably, work and spouse did not significantly affect the level of life satisfaction in the female sample review (Rudkin 1994, Majdi, Mobarhan et al. 2011, Han and Kim 2014, Radhika and Ramachandran 2021). This could be due to the differing societal norms and expectations that elderly women face compared to elderly men (Radhika and Ramachandran 2021).

In the total annual income category, only the 100,000-499,999 and variable had a significant positive effect on the life satisfaction of the female cohort ($\beta = [0.299]$, $p = [0.015]$). Interestingly, other categories, be it below or above the aforementioned level, did not have a significant impact on the level of life satisfaction. This could be due to the aforementioned higher resilience of the elderly to poverty, as well as other intrinsic sources of happiness and life satisfaction (Cid, Ferrés et al. 2008, Gray, Rukumnuaykit et al. 2008).

In the total asset net worth category, only the 0-49,999 Baht ($\beta = [-0.351]$, $p = [0.055]$) and the 50,000-99,999 Baht ($\beta = [-0.288]$, $p = [0.044]$) variables had a significant negative effect on the level of life satisfaction, with the negative effect decreasing with higher net worth of assets, such as 100,000-499,999 Baht. Among additional variables, reported health was significant, while religion and age were not. This coincides with the theory that economic factors can provide the foundation for happiness while not being able to supplement all the other factors necessary for the elderly person to live a happy life (Pichler, Moura et al. 2019). While money can give the elderly the opportunities to put themselves in a position to get involved in the community by sharing knowledge or starting a business, it is these last acts that can provide a higher level of happiness above the lack of financial anxiety and worries (Diener and Shigehiro 2000, Diener, Lucas et al. 2002, Pichler, Moura et al. 2019, Toshkov 2021).

4.3.6 Ordinal Regression: male

Among males (Table 9), the Ordinal Regression Analysis, on the opposite, had savings ($\beta = [0.216]$, $p = [0.029]$) and gold ($\beta = [0.189]$, $p = [0.092]$) be positive predictors of higher life satisfaction for the elderly cohort. Notably, the female cohort did not have savings be a significant predictor. Gold was also a stronger positive predictor for the female cohort than the male cohort. This may be due to different societal values exhibited by males in comparison to females in this regard (Radhika and Ramachandran 2021). The core reasons remain the same as for the prior cohorts examined. (Hong and Han 2013, Boontoch and Nuntaboot 2017, Pichler, Moura et al. 2019, Suriyanrattakorn 2019, Hong-Ngam, Ayuwat et al. 2021, Ford, Aree et al. 2022, Kim 2022, Phathinan, Saksith et al. 2022).

In the Sources of income category, daughter ($\beta = [0.339]$, $p = [0.000]$) and work ($\beta = [0.216]$, $p = [0.029]$) were significant predictors of higher Level of life satisfaction. This is supported by the literature reviewed in prior studies (Thadchai 2018, Hong-Ngam, Ayuwat et al. 2021, Kim 2022, Phathinan, Saksith et al. 2022). On the other hand, females did not have work as one of the significant predictors. A notable difference from the female cohort, having donations as a source of income was also shown to be a significant negative predictor of a lower level of life satisfaction ($\beta = [-2.422]$, $p = [0.002]$). This may be due to male expectations to provide for the family (Jansup, Pad et al. 2018).

In the total annual income category, higher income was a significant predictor of a higher level of life satisfaction, with higher income positively predicting a higher level of happiness and life satisfaction. This trend had also occurred among the female cohort; however, the income threshold to achieve a positive contribution to life satisfaction was lower for males than for females. In males, the trend is solid and occurs at a lower income threshold. Total annual income of the household was a positive predictor of the level of life satisfaction among males, with the income levels of 10,000-19,999 Baht ($\beta = [0.604]$, $p = [0.011]$) 20,000-49,999 Baht ($\beta = [0.605]$, $p = [0.001]$), 50,000-99,999 Baht ($\beta = [0.569]$, $p = [0.001]$), and 100,000-499,999 Baht ($\beta = [0.676]$, $p = [0.000]$).

The lower-income bracket of Below 10,000 Baht did not have a significant effect on the level of life satisfaction. However, the total asset net worth was not a significant factor like it was among females. Meanwhile, males were more sensitive toward the total annual income than females. Multiple researchers found income to play a crucial role in the happiness of the elderly (Easterlin 1995, Easterlin and Schaeffer 1999, Easterlin 2001, Chan, Ofstedal et al. 2002, Easterlin 2003, Chou, Chi et al. 2004, Gray, Rukumnuaykit et al. 2008, Hong and Han 2013, Yiwei 2013, Hsiao-Chien 2014, Boontoch and Nuntaboot 2017, Pichler, Moura et al. 2019, Li, Wang et al. 2020, Udomkerdmongkol 2020, 2021, Ford, Aree et al. 2022).

Very notably, the value of assets was not significant in the level of life satisfaction and happiness, while it was significant for females. Among males, religion and age did not show to be significant predictors of the level of life satisfaction. Health was a significant predictor of life satisfaction, just as for females.

4.4 Conclusion

Among assets, gold and savings were shown to be the most significant predictors of elderly level of life satisfaction in the combined groups. However, for Thai elderly males, gold was not a significant predictor of the level of life satisfaction. Moreover, for females, it was a very significant predictor. This may suggest that having gold among assets is more important for females than it is for males. Savings were shown to be universally significant for both sexes, which coincides with the notion that having savings is essential in old age.

The extent to which the level of income increased happiness mainly went in line with the previous studies exploring that concept (Easterlin and Schaeffer 1999, Diener and Shigehiro 2000, Easterlin 2001, Easterlin 2003, Toshkov 2021). Higher income correlated with higher life satisfaction. Earning above 500,000 Baht was shown to have the highest significance in determining life satisfaction.

Regarding the primary sources of income, receiving income from the elderly's daughter and work was significant for both sexes. However, this finding differed among the male and female cohorts separately. Among males, having donations as the primary source of income was an additional, albeit negative, a predictor of life satisfaction. This may be due to the cultural expectations placed upon men in Thai society and beyond, expecting them to be higher earners and more involved in work than women (Wongchalard 2019).

Therefore, receiving income from donations could negatively affect the male's self-image and lead to a lower level of life satisfaction. On the other hand, females did not have work as a significant predictor of a higher level of life satisfaction, while males did. This may be due to an overall lower involvement of elderly women in the labor force in Thailand, the socio-cultural factors that see men as the main providers in the household and contribute to the lower involvement (Wongchalard 2019), or the intersection of gender discrimination and ageism women would uniquely face in the workplace.

Chapter 5

Policy recommendations

5.1 Introduction

There are several economic policy recommendations to address the ageing population. However, not all of them fit the case of Thailand. Due to differing socio-cultural factors worldwide, different economic factors increase the life satisfaction of the elderly. By identifying the economic factors which increase the happiness of the Thai elderly, several policies can be brought up as solutions to the aging population phenomenon. A higher income and value of assets increases the life satisfaction of the elderly, as established in a variety of previous research and confirmed in this independent study.



5.2 Policy recommendations

First, the Thai elderly must diversify their income for retirement. It can be achieved in several different ways. However, as a baseline, slow improvements need to be made in the amount of pension received by the elderly, as the current pension scheme does not provide enough to sustain the elderly. The consequences

will be felt strongly as the old-age dependency ratio increases steadily in the coming years (HelpAge International & College of Population Studies 2013).

Moreover, the barrier to entering the scheme must also be reduced, from 15 years to ten, then five. Another significant challenge to Old Age Allowance (OLA) reform is that over half of Thai workers are in the informal economy and do not contribute to the pension scheme (ILO 2022).

These demographic pathways sustainably secure their employment and achieve a safer economic future. National Savings Fund (NSF), Government Pension Fund (GPF), and the potential National Pension Fund (NPF) could be more correlated and coherent in order to move to cover a larger share of the elderly through targeted schemes (ILO 2022). Furthermore, Social Security Office (SSO) and Old Age Allowance (OLA) could be integrated to securely modify the scheme as a single payment and create a continuous payment history (ILO 2022).

Increasingly, the Old Age Allowance (OLA) is a reform that can elevate the pension system to more developed standards. However, measures to finance it need to follow. A rise in contribution rates must be implemented to fund the proposed reform. The reform should also include a slow increase in the retirement age as life expectancy increases.

Moreover, as supported by this research, elderly persons have a higher level of life satisfaction when work is their source of income compared to other factors such as pension or donations. This way, the number of pension beneficiaries can be decreased, making it easier to fund the scheme. As the elderly generally earn higher than younger people, the tax output would also increase.

To encourage older persons to participate in the labor market, it is vital to increase their employability. This sentiment especially applies to the oldest workers and elderly working women. They are vulnerable to unemployment and discrimination in the workplace (2022). The elderly persons need to be accommodated at work, and the rise of the pension age would help to combat the ageist discrimination elderly workers may face. Elderly employees may take mentor roles at work, combined with a description of workdays and disability accommodations at the workplace, if necessary. The ever-changing job market compounds these threats as more and more roles are replaced by technology.

As this study has concluded that receiving income from the daughter is a significant factor in Thai elderly happiness, there need to be policies that encourage and foster the connection between the elderly and their children, especially daughters. This can be done through measures ranging from widespread information campaigns about the elderly to supporting the elderly on a community level. Moreover, to facilitate a more effortless income transfer between family members,

elderly persons need to be educated and encouraged to use online banking to have their daughter as one of their sources of income.

The differences between the male and female elderly should also be addressed in the policies that would be implemented to address the aging population. Savings were shown to be more important for males than for females. Moreover, male happiness was adversely affected after receiving income from donations.

This may be due to the male socialization norms and the expectation of being the provider for the family. When receiving income from donations, males may feel emasculated and as if they did not fulfill their duty. The observed differences between men and women should also be included in tailoring the policy on the Thai elderly. Women and men must be recognized as demographics with different goals and needs.

This echoes the problems with the current societal model of male socialization across Southeast Asia and worldwide, culminating in higher suicide rates and lower life expectancy. In addition, males value savings more than females, while females prioritize gold as a higher contributor to their happiness and life satisfaction. This calls for the government to implement programs that socialize male children more fittingly so they do not bear the societal burden (Jansup, Pad et al. 2018). A

revision of the boy scout socialization instrument can be implemented in order to address the issue (Jansup, Pad et al. 2018). This could also contribute to lowering the rates of male suicidality and depression.

This independent study had shown that elderly persons of both genders benefit from receiving income from their daughters. This suggests policy and program incentives that encourage active participation and care of younger persons for their parents and older relatives. Active ageing strategies would benefit from involving the daughter specifically in family-based activities.

Elderly persons need to be able to accumulate assets in order to maintain a sufficient level of happiness and life satisfaction. The assets that were shown to provide a significant impact on the life satisfaction of the elderly were savings and gold. Therefore, a policy that stimulates the accumulation of these assets can be conceived as savings incentives.

This issue is even more relevant considering people live longer nowadays, meaning more and more savings are required to sustain people into retirement. Another way to increase the savings of the elderly is to minimize the years of life lost due to illness and disability into older age. This could allow the elderly to spend less on medical bills and therefore have a higher chance of accumulating savings.

5.3 Conclusion

In conclusion, the aging population is an issue that is likely to affect Southeast Asia, along with the rest of the world for the years to come. However, the process is affecting Thailand at a particularly high rate, unlike other developing countries in the region, some of which still benefit from a demographic dividend. Therefore, the Thai government needs to create new strategies in order to address the developmental challenge and bring the aging population process to the country's advantage. The government of Thailand has come out with several measures addressing the aging population phenomenon, such as establishing the Commission on the elderly in 1999, as well as the Elderly Act in 2003, followed by the Elderly Fund (UNFPA).

Other measures that were taken by the government of Thailand are the development and implementation of the First and Second Plans for Older Persons, with the latter lasting until the year 2021 (UNFPA). Regarding future strategies, it is possible to suggest several pathways for future involvement of the elderly population in sustainable development. United Nations Sustainable Development Goals that could be relevant in this regard include SDG 4 "Quality Education" and SDG 8 "Decent Work and Economic Growth."

The current independent study aims to discover integrative ways to involve the elderly in work and community-building beyond retirement, as suggested by the Foundation of Thai Gerontology Research and Development Institute (NCE 2018). In

order to offset the impacts of the shrinking labor force likely to arise within the process of demographic transition, the elderly may wish to be employed beyond retirement age.

These findings would contribute to guiding future policy decisions regarding the involvement of the Thai elderly in the country's economic development. The elderly can circulate their income with the larger economy instead of retaining it, sharing their knowledge in the workplace to guide, mentor, and direct businesses and organizations (UNFPA).



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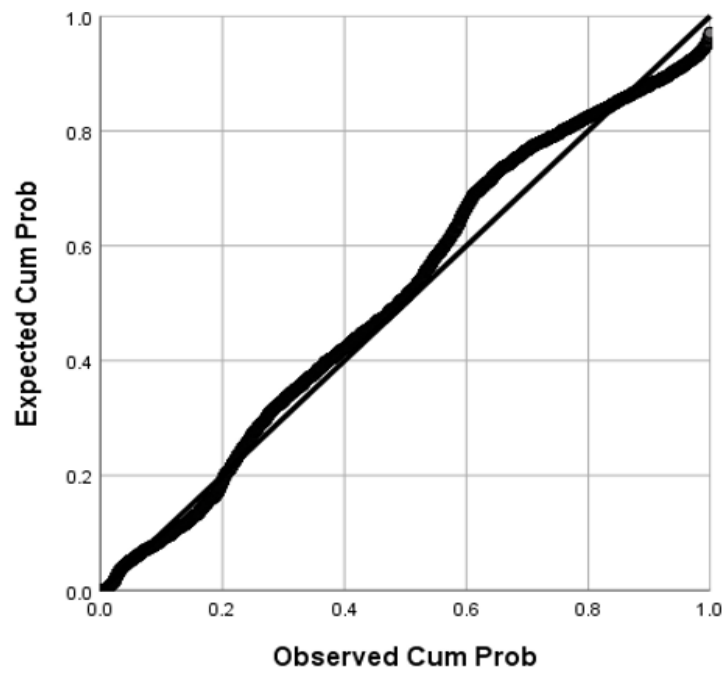
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Appendix 1



Appendix 2



Older Person Questionnaire



College of Population Studies Chulalongkorn University
 Population Change and Well-being in the Context of Aging Society
 June-August 2016

Region
 Province
 Amphoe/district
 Urban/Rural
 PSU No.
 House No.

Name of HH respondent (Mr., Mrs., Miss).....Last name.....HH. No.....
 House No.....Village No.....Tesaban/village name.....EA.....Sol.....
 StreetTambon.....Amphoe.....Province.....

No. of eligible OP.....persons Interviewed.....persons Questionnaire No. of the total.....
 Name of OP. respondent.....HH line no. of OP.....
 Name pf proxy.....HH. Line no. of proxy..... (if not in the hh., code "88")
 Relationship to the OP.....
 Main reason for having proxy interview..... Proxy interview: 1 All 2 Some 3 Together with OP.

Elderly's Interview							
Day/Month	1 st Visit	2 nd Visit	3 rd Visit	Result of final visit			
	Name of interviewer	<input type="checkbox"/> <input type="checkbox"/>	Completed	Partly completed	No (specify reason)
Visit result	<input type="checkbox"/>	1	2	0 <input type="checkbox"/> <input type="checkbox"/>
Total number of visits.....Times <input type="checkbox"/>							

Care giver's interview

0 No care giver 1 Yes
 Name of care giver.....HH Line No..... (If not in hh., code "88")
 Interview result: 1 Yes 2 No

	Field editor	Office editor	Keyer
Name <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Date

Reasons for not being able to interview OP.

- 1 Refused
- 2 Not find 3 times/Not at home
- 3 Hearing problem/deaf
- 4 Sick/dementia
- 5 Confused
- 6 Other (specify).....

Information obtained from this questionnaire interview is academically useful. The data will be presented as the overall picture of all sample households at the country level. Researchers will keep your personal information confidential. Researchers apologize if there are any questions that make you feel uncomfortable or uneasy to answer and you may decline or stop giving the interview at any time.

Section A General Characteristics of OP.

Please give information about your general attributes

Q no.	Question and instructions	Code categories	Skip to
A1	Started time of interview.....Hour.....Minute <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
A2 (ES-A4)	Sex of OP.	Male.....1 Female.....2	
A3	What month and year were you born?	Month..... <input type="checkbox"/> <input type="checkbox"/> D.K. month.....99 Year in B.E..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> D.K. Year.....9999	
A4 (ES-A5)	How old are you? (record completed age)	Reported age.....yrs <input type="checkbox"/> <input type="checkbox"/> Corrected age.....yrs <input type="checkbox"/> <input type="checkbox"/>	
A5 (ES-A6)	What is your religion?	No.....0 Bhuddist.....1 Christian.....2 Islam.....3 Other (specify)..... <input type="checkbox"/>	
A6 (ES-A8)	What is the highest grade of education you completed? (Interviewer: Record grade, level and certificate or degree received in details.)	Not attain school.....000 Grade..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
A7	Interviewer: check answer in A6 and circle appropriate answer.	Never attain school/Gr 4 or less.....0 Higher than Grage 4.....1	---> A10
A8 (ES-A9)	Currently, can you read? (at least 1 language incl. Braille.)	Not at all.....0 Somewhat difficult.....1 Yes, easily.....2	

Q no.	Question and instructions	Code categories	Skip to
A9 (ES-A9)	Currently, can you write? at least 1 language incl. Braille.)	Not at all.....0 Somewhat difficult.....1 Yes, easily.....2	
A10 (ES-A10)	What is your current marital status?	Single (Never married).....1 Married and spouse in hh.....2 Married and spouse not in hh.....3 Widowed (Spouse dead).....4 Divorced.....5 Separated/living apart .....6	

College of Population Studies

Section B Children, Support and Relations

Q no.	Question and instructions	Code categories	Skip to
B1	Interviewer: Check answer in A10 and circle appropriate answer.	Married (Code 2-6)..... 1 Never married (Single)..... 2	--->B7
B2	At present, how many living biological children do you have? How many living sons and daughters (Not include step or adopted children.)	Total no. of living sons..... <input type="checkbox"/> Total no. of living daughters..... <input type="checkbox"/> Total no. of living children..... <input type="checkbox"/> <input type="checkbox"/>	
B3	How many of children live with in this household? How many sons and how many daughters?	No. of sons in hh..... <input type="checkbox"/> No. of daughters in hh..... <input type="checkbox"/>	
B4	How many of your children living elsewhere? How many sons and how many daughters?	No. of sons outside hh..... <input type="checkbox"/> No. of daughters outside hh..... <input type="checkbox"/>	
B5	Do you have any step children?	No..... 0 Yes..... 1	--->B7
B6	At present, how many living step children do you have?	Total no. of living step children <input type="checkbox"/>	
B7	Do you have any adopted children?	No..... 0 Yes..... 1	--->B9
B8	How many living adopted children do you have	Total no. of living adopted children <input type="checkbox"/>	
B9	Interviewer: Sum up total number of living children (incl. step and adopted in B2, B6 and B8) and ask “You have <input type="checkbox"/> <input type="checkbox"/> living children , is that correct?”	No..... 0 Yes..... 1	---> check and correct B2, B6 & B8
B10	Interviewer: Check answer in B9 and circle the appropriate answer.	No living child..... 0 Have 1 or more living children... 1	---> B12
B11	Now, I would like to ask about all your living children (including step and adopted), beginning with the eldest to the youngest ones of your own, followed by your step and adopted children.		

Table of Elderly's Living Children (Interviewer: Record name and information of every child in the table below,

(a)	(b)	(c)		(d)	(e)			Ask only the child aged 13 +					
								(f)				(g)	
Line number	What is the name of your child?	Is (Name) boy or girl		How old is (Name) in completed year?	Is (Name) your own or step or adopted child?			What is (Name) marital status?					(Ask only ever married child) How many children does (Name) have? (If no, code "0")
		M	F		Own	Step	Adopted	Single	Currently married	Widow	Div/sep/living apart		
01	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
02	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
03	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
04	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
05	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
06	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
07	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
08	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
09	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	
10	1	2	.....yrs old □□	1	2	3	1	2	4	5	.....persons □	

starting from the eldest to the youngest biological children, followed by the step and adopted ones.

(h)	(i)	Ask only children aged 11+		(k)							
		(j)									
Is (Name) currently in school? Not yet in school age No Yes (Go to col. k)	What is the highest grade of education (Name) completed?	In the past year, did (Name) work? No Yes		At present, where does (Name) live? Same house Nextdoor Same Same Other Foreign D.K where (Go to col. s) /Nearby village province province country (Go to B12)							
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)
0 1 8 (Go to Col. k)	Never in school.....000 Grade.....□□□	0 1		1 2 3 4 5 6 7 (Go to col. s)							7 (Go to B12)

(a)	Ask only children who live outside the household (Codes 2-6 in col. k)											
	(l)						(m)					
Line number	In the past year , how frequent did (Name) talk to you on the phone?						In the past year , did you correspond with (Name) via SMS or on line (e.g., email, /Line/Facebook/ Skype)?					
	Never	1-3 times/yr	4-5 times/yr	Every/ almost every month	Every/ almost every week	Daily/ almost daily	Never	1-3 times/yr	4-5 times/yr	Every/ almost every month	Every/ almost every week	Daily/ almost daily
01	0	1	2	3	4	5	0	1	2	3	4	5
02	0	1	2	3	4	5	0	1	2	3	4	5
03	0	1	2	3	4	5	0	1	2	3	4	5
04	0	1	2	3	4	5	0	1	2	3	4	5
05	0	1	2	3	4	5	0	1	2	3	4	5
06	0	1	2	3	4	5	0	1	2	3	4	5
07	0	1	2	3	4	5	0	1	2	3	4	5
08	0	1	2	3	4	5	0	1	2	3	4	5
09	0	1	2	3	4	5	0	1	2	3	4	5
10	0	1	2	3	4	5	0	1	2	3	4	5

Ask only children who live outside the household (Codes 2-6 in col. k)																							
(n)						(o)						(p)											
In the past year , how frequent did you and (Name) visit each other?						In the past year , how frequent did you receive food from (Name)?						In the past year , how frequent did you give food to (Name)?											
		Every		Every/				Every		Every/				Every		Every/							
1-3		4-5		/almost		almost		Daily/				1-3		4-5		/almost		almost		Daily/			
times/		times/		every		every		almost				times/		times		every		every		almost			
Never	yr	yr	month	week	daily	Never	/yr	yr	month	week	daily	Never	yr	/yr	month	week	daily	Never	yr	/yr	month	week	daily
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5
0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5	0	1	2	3	4	5

Ask only children who live outside the household (Codes 2-6 in col. k)												
(a)	(q)						(r)					
Line number	In the past year , how frequent did you receive clothes/supplies from (Name)?						In the past year , how frequent did you give clothes/supplies from (Name)?					
	Never	1-3 times/yr	4-5 times/yr	Every/ almost every month	Every/ almost every week	Daily/ almost daily	Never	1-3 times/yr	4-5 times/yr	Every/ almost every month	Every/ almost every week	Daily/ almost daily
01	0	1	2	3	4	5	0	1	2	3	4	5
02	0	1	2	3	4	5	0	1	2	3	4	5
03	0	1	2	3	4	5	0	1	2	3	4	5
04	0	1	2	3	4	5	0	1	2	3	4	5
05	0	1	2	3	4	5	0	1	2	3	4	5
06	0	1	2	3	4	5	0	1	2	3	4	5
07	0	1	2	3	4	5	0	1	2	3	4	5
08	0	1	2	3	4	5	0	1	2	3	4	5
09	0	1	2	3	4	5	0	1	2	3	4	5
10	0	1	2	3	4	5	0	1	2	3	4	5

Ask to every child			Ask only to elderly respondent							
(s)		(t)	(u)							
In the past year , did you receive money from (Name)? If yes, is it less than 5,000 Baht or 5,000 Baht +?		In the past year , did you give money to (Name)? If yes, is it less than 5,000 Baht or 5,000 Baht +?	How do you rate your relationship with (Name)? <u>(Interviewer: Read the answer categories.)</u>							
No	Less than 5,000 Baht	5,000 Baht or more	No	Less than 5,000 Baht	5,000 Baht or more	Very bad	Bad	Moderate	Good	Very good
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4
0	1	2	0	1	2	0	1	2	3	4

Q no.	Question and instructions	Code categories	Skip to
B12	Interviewer: Check answer in SC2 and circle the appropriate category.	Live alone..... 0 More than 1 member..... 1	---> B15

B13 (OP79- OP86) In the past year , did you participate in the following household activities? If yes, how frequent? (Interviewer: Read out the answer categories.)						B14 Interviewer: Ask those answered "2" in B13. Are you the main person doing this activity?	
Activities		No activity	No	Sometime	Often	No	Yes
a	Buying food/things to eat with rice	8	0	1	2	→ 0	1
b	Cooking	8	0	1	2	→ 0	1
c	Laundry, ironing	8	0	1	2	→ 0	1
d	Clean the house/mop the floor	8	0	1	2	→ 0	1
e	Take care of grand children age less than 10 years old	8	0	1	2	→ 0	1
f	Watch the house	8	0	1	2	→ 0	1
g	Take care of members age 60 and over	8	0	1	2	→ 0	1
h	Take care of disable persons	8	0	1	2	→ 0	1

B15 (OP79- OP86) In the past year , did you participate in the following activities outside the household? If yes, how frequent? (Interviewer: Read out the answer categories.)						B16 Interviewer: Ask those answered "2" in B15. Are you the main person doing this activity?	
Activities		No activity	No	Sometime	Often	No	Yes
a	Take care of children age < 10 yrs old	8	0	1	2	→ 0	1
b	Take care of persons age 60 and over	8	0	1	2	→ 0	1
c	Take care of disable persons	8	0	1	2	→ 0	1

Section C Work, Income and Savings

Q no.	Question and instructions	Code categories	Skip to
C1 (OP18)	Do you want to work?	No..... 0 Yes..... 1	
C2 (OP14)	In the past week , did you work?	No..... 0 Yes..... 1	--->C5
C3 (OP15)	In the past week , what was your main job? (Interviewer : Record clearly type or output of the main job) <i>*Main job is defined as the job with the longest working hour.</i>	(specify)..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
C4 (OP16)	In the past week , what was work status? (Interviewer : Read out answer categories)	Employer..... 01 Own business..... 02 Assist household business..... 03 Government employee..... 04 Public enterprise employee..... 05 Private employee..... 06 Member of producer group..... 07 Could not identify status..... 08 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	} C8
C5 (ES-A11)	In the past year , did you work?	No..... 0 Yes..... 1	--->C9

Q no.	Question and instructions	Code categories	Skip to
C6 (ES-A12)	<p>In the past year, what was your main job?</p> <p>(Interviewer: Record clearly type or output of the main job)</p> <p><i>*Main job is defined as the job with the longest working hour.</i></p>	(specify)..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
C7 (ES-A13)	<p>In the past year, what was work status?</p> <p>(Interviewer: Read out answer categories)</p>	Employer..... 01 Own business..... 02 Assist household business..... 03 Government employee..... 04 Public enterprise employee..... 05 Private employee..... 06 Member of producer group..... 07 Could not identify status..... 08 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	
C8 (OP17)	<p>How long have you continuously worked on this job? (Record in complete year)</p>	.....years <input type="checkbox"/> <input type="checkbox"/>	
C9	<p>Interviewer: Check answer in C2 and circle the appropriate answer.</p>	Did not work last week.....0 Worked last week..... 1	---> C11
C10 (OP19)	<p>Are you looking for work?</p>	No..... 0 Yes..... 1	

Q no.	Question and instructions	Code categories		Skip to
C11	At present, are you a member of the following fund? (Interviewer: Read out each category below)	No	Yes	
	a. Orovident fund (OP20)	0	1	
	b. Social security fund (OP21)	0	1	
	c. Government pension fund (OP22)	0	1	
	d. Private school teacher aid fund (OP23)	0	1	
	e. National saving fund	0	1	
	f. Oath taking saving fund	0	1	
	g. Cremation/funeral fund	0	1	
	h. Bought RMFs (OP24)	0	1	
	i. Bought LTFs (OP25)	0	1	
	j. Other fund (specify).... <input type="checkbox"/> <input type="checkbox"/> (OP26)	0	1	
C12 (OP27- OP38)	In the past year , did you have income or asset for living expenses from the following asources? (Interviewer: Read out each category below)	No	Yes	
	a. Government living allowance	0	1	
	b. Work	0	1	
	c. Government lump sum payment	0	1	
	d. Pension	0	1	
	e. Interests /saving/assets	0	1	
	f. Spouse	0	1	
	g. Son (incl. step and adopted)	0	1	
	h. Daughter (incl. step and adopted)	0	1	
	i. Own or spouse's parent	0	1	
	j. Own or spouse' sibling	0	1	
	k. Relatives	0	1	
	l. Donations	0	1	
	m. Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	0	1	

Q no.	Question and instructions	Code categories	Skip to																					
C13 (OP39)	At present, what is your main source of income for living? (One answer only)	Work..... 01 Lump sum payment.....02 Pension.....03 Gov't allowance..... 04 Interest/saving/asset.....05 Spouse.....06 Children (Incl. step and adopted)..07 Parent, sibling/relativess..... 08 Donation.....09 Other(specify)..... <input type="checkbox"/> <input type="checkbox"/>																						
C14	Do you have the following assets? (Interviewer: Read out each category below) a. Savings (Incl.oath taking saving fund) b. Gold c. Bond/mutual fund/stock d. House/condominium/apartment e. Land f. Car/motor cycle	<table border="1"> <thead> <tr> <th></th> <th>No</th> <th>Yes</th> </tr> </thead> <tbody> <tr> <td>a. Savings (Incl.oath taking saving fund)</td> <td>0</td> <td>1</td> </tr> <tr> <td>b. Gold</td> <td>0</td> <td>1</td> </tr> <tr> <td>c. Bond/mutual fund/stock</td> <td>0</td> <td>1</td> </tr> <tr> <td>d. House/condominium/apartment</td> <td>0</td> <td>1</td> </tr> <tr> <td>e. Land</td> <td>0</td> <td>1</td> </tr> <tr> <td>f. Car/motor cycle</td> <td>0</td> <td>1</td> </tr> </tbody> </table>		No	Yes	a. Savings (Incl.oath taking saving fund)	0	1	b. Gold	0	1	c. Bond/mutual fund/stock	0	1	d. House/condominium/apartment	0	1	e. Land	0	1	f. Car/motor cycle	0	1	
	No	Yes																						
a. Savings (Incl.oath taking saving fund)	0	1																						
b. Gold	0	1																						
c. Bond/mutual fund/stock	0	1																						
d. House/condominium/apartment	0	1																						
e. Land	0	1																						
f. Car/motor cycle	0	1																						
C15	Interviewer: Check answer in C14 and circle the appropriate answer.	No asset.....0 Have one or more assets.....1	---> C17																					

Q no.	Question and instructions	Code categories	Skip to
C16 (OP43)	What is the total value of your assets? (Interviewer: If R could not answer, read out the answer categories.)	Less than 10,000 Baht..... 01 10,000 – 24,999 Baht..... 02 25,000 - 49,999 Baht..... 03 50,000 - 69,999 Baht..... 04 70,000 - 79,999 Baht..... 05 80,000 - 89,999 Baht..... 06 90,000 - 99,999 Baht..... 07 100,000 - 199,999 Baht..... 08 200,000 - 399,999 Baht..... 09 400,000 - 699,999 Baht..... 10 700,000 - 999,999 Baht..... 11 1,000,000 Baht or more..... 12 DK/NA..... 99	
C17 (OP40)	In the past year , what was your total income from all sources (Incl. income in kind)?	No income..... 00 Less than 10,000 Baht..... 01 10,000 – 19,999 Baht..... 02 20,000 - 29,999 Baht..... 03 30,000 - 39,999 Baht..... 04 40,000 - 49,999 Baht..... 05 50,000 - 59,999 Baht..... 06 60,000 - 69,999 Baht..... 07 70,000 - 79,999 Baht..... 08 80,000 - 99,999 Baht..... 09 100,000 - 299,999 Baht..... 10 300,000 - 399,999 Baht..... 11 400,000 -499,999 Baht..... 12 500,000 Baht or more..... 13 DK/NA..... 99	

Q no.	Question and instructions	Code categories	Skip to
C18	In the past year , what was the average total income of your household (Incl. income of every household member)?	Less than 10,000 Baht..... 01 10,000 – 19,999 Baht..... 02 20,000 - 29,999 Baht..... 03 30,000 - 39,999 Baht..... 04 40,000 - 49,999 Baht..... 05 50,000 - 59,999 Baht..... 06 60,000 - 69,999 Baht..... 07 70,000 - 79,999 Baht..... 08 80,000 - 99,999 Baht..... 09 100,000 - 299,999 Baht..... 10 300,000 - 399,999 Baht..... 11 400,000 -499,999 Baht..... 12 500,000-599,999 Baht..... 13 600,000 Baht or more..... 14 DK/NA..... 99	
C19 (OP41)	Do think that your total income from all sources is more than adequate, adequate, sometime adequate, or inadequate for living?	More than adequate..... 1 Adequate.....2 Sometime adequate..... 3 Inadequate..... 4	
C20 (OP42)	How satisfied are you with your financial situation?	Very satisfied..... 1 Satisfied.....2 Dis-satisfied.....3	
C21	Interviewer: Check answer in C12a and circle the appropriate answer.	Did not receive allowance.....0 Received allowance..... 1	---> C24
C22	Do you think that receiving government allowance has greatly improved, improved, or no change your living condition?	Greatly improved..... 1 Improved..... 2 No change..... 3	

Q no.	Question and instructions	Code categories	Skip to
C23	What did you mostly spend your government allowance for? (One answer only)	Buy food for self..... 01 Buy food for everyone in the house..... 02 Buy personal items..... 03 Pay for utilities..... 04 Make merit..... 05 Send children to school/ buy school supplies..... 06 Give to children..... 07 Send grand children to school/ buy school supplies..... 08 Take care of grand children..... 09 Keep as saving..... 10 Pay debt..... 11 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	
C24	(Ask to OP who is self respondent only) In your view, should the government monthly allowance be given to every elderly or only to destitute elderly?	Every elderly..... 1 Only destitute elderly..... 2 Proxy interview..... 3 Other (specify)..... <input type="checkbox"/>	

Section D Living Condition

Q no.	Question and instructions	Code categories	Skip to																																										
D1	Interviewer: Check answer in SC2 and circle the appropriate answer.	Elderly live alone.....0 Live with more than 1 members... 1	---> D10																																										
D2 (OP51- OP63)	Does following person living in the household with you? (Interviewer: ask each category)	<table border="1"> <thead> <tr> <th></th> <th>No</th> <th>Yes</th> </tr> </thead> <tbody> <tr> <td>a. Spouse</td> <td>0</td> <td>1</td> </tr> <tr> <td>b. Single son</td> <td>0</td> <td>1</td> </tr> <tr> <td>c. Single daughter</td> <td>0</td> <td>1</td> </tr> <tr> <td>d. Married son (incl. ever married)</td> <td>0</td> <td>1</td> </tr> <tr> <td>e. Married daughter (incl. ever married)</td> <td>0</td> <td>1</td> </tr> <tr> <td>f. Son/daughter in-law</td> <td>0</td> <td>1</td> </tr> <tr> <td>g. Grand children</td> <td>0</td> <td>1</td> </tr> <tr> <td>h. Own/spouse's parent</td> <td>0</td> <td>1</td> </tr> <tr> <td>i. Own/spouses'sibling</td> <td>0</td> <td>1</td> </tr> <tr> <td>j. Relatives</td> <td>0</td> <td>1</td> </tr> <tr> <td>k. Friend</td> <td>0</td> <td>1</td> </tr> <tr> <td>l. Care giver of member age 60+</td> <td>0</td> <td>1</td> </tr> <tr> <td>m. Employee/servant</td> <td>0</td> <td>1</td> </tr> </tbody> </table>		No	Yes	a. Spouse	0	1	b. Single son	0	1	c. Single daughter	0	1	d. Married son (incl. ever married)	0	1	e. Married daughter (incl. ever married)	0	1	f. Son/daughter in-law	0	1	g. Grand children	0	1	h. Own/spouse's parent	0	1	i. Own/spouses'sibling	0	1	j. Relatives	0	1	k. Friend	0	1	l. Care giver of member age 60+	0	1	m. Employee/servant	0	1	
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l. Care giver of member age 60+	0	1																																											
m. Employee/servant	0	1																																											
D3 (OP64)	How many grand children living with you in the household?	No..... 0 Yes,number <input type="checkbox"/> <input type="checkbox"/>	--->D10																																										
D4 (OP65)	What is the age of the youngest grand child who lives with you ? (Record age in complete year, if less than one year old, record "00")	Age.....years old <input type="checkbox"/> <input type="checkbox"/>																																											

Q no.	Question and instructions	Code categories	Skip to
D5	Interviewer: Check answer in D4 and circle the appropriate answer.	Youngest grand child age less than 18 years old..... 1 Youngest grand child age 18 years old and over..... 2	---> D9
D6 (OP66)	Do parents of the grand child answered in D4 live in this household?	Father and/or mother live in the household..... 1 Both father and/or mother alive, but live elsewhere..... 2 Both father and mother are dead.. 3	--->D9
D7 (OP67)	Who is the main person providing daily living care for the youngest grand child whose parent still alive but living elsewhere, and/or both parent died? (One answer only)	No care giver/self care..... 0 Respondent/OP..... 1 R's spouse..... 2 R and spouse..... 3 Other household member..... 4 Other (specify)..... <input type="checkbox"/>	
D8 (OP68)	Who is the main person providing financial support for the youngest grand child whose parent still alive but living elsewhere, and/or both parent died? (One answer only)	Respondent/OP..... 1 R's spouse..... 2 R and spouse..... 3 Parent of the grand child..... 4 The grand child himself/herself.... 5 Relatives..... 6 Other (specify)..... <input type="checkbox"/>	
D9	(Ask only Self response OP.) Do you think that having a grand child living with you in the household make you feel mostly happy or burden?	Mostly happy..... 1 Mostly burden..... 2 Both happy and burden..... 3 Proxy interview..... 4	

Q no.	Question and instructions	Code categories	Skip to
D10 (OP44)	Who is the owner of the house you are currently residing?	Self..... 1 Spouse..... 2 Self and spouse..... 3 Children..... 4 Grand children..... 5 Relatives..... 6 Other (specify)..... <input type="checkbox"/>	
D11	Who is the owner of the land this house is built on?	Self..... 1 Spouse..... 2 Self and spouse..... 3 Children..... 4 Grand children..... 5 Relatives..... 6 Other (specify)..... <input type="checkbox"/>	
D12 (OP46)	Is your bedroom upstairs or downstairs?	Upstair/house with high floor..... 1 Downstair..... 2 One story house..... 3	
D13 (ES-H3A)	Does the house you live have any rail?	No..... 0 Yes..... 1	
D14 (ES-H3B)	Does your bedroom have a rail?	No..... 0 Yes..... 1	
D15 (ES-H3C)	Does your toilet/bathroom have a rail?	No..... 0 Yes..... 1	

Q no.	Question and instructions	Code categories	Skip to
D16 (OP48)	What type of toilet do you use mostly?	Sitting/flushing toilet..... 1 Squatting toilet..... 2 Pits/bucket/river/canal/other..... 3 Lie down excretion..... 4 Sitting excretion on chair /jug..... 5	} E1
D17 (OP49)	Where is the toilet/bathroom you usually use?	Inside the house..... 1 Outside/attached to the house..... 2 Outside far away from the house.. 3	
D18 (OP50)	When you leave the bathroom/toilet, how do you open its door?	Pull..... 1 Push..... 2 Slide..... 3 No door/pull or gather the cloth or plastic curtain 4	

Section E: Health Status and Health Care

Q no.	Question and instructions	Code categories	Skip to
E1 (OP87)	How do you rate your health in the past week? (Interviewer: Read out the answer categories)	Very good..... 1 Good..... 2 Fair..... 3 Not good..... 4 Very bad..... 5	
E2 (OP88)	Could you see clearly? (Interviewer: If answer “Yes” ask “Do you wear glasses or lense to see?”)	Clear without glasses/lenses..... 1 Clear with glasses/lenses..... 2 Not clear..... 3 Could not see (blind)..... 4	
E3 (OP89)	Could you hear clearly? (Interviewer: If answer “Yes” ask “Do you wear hearing aids to help hearing?”)	Clear without hearing aids..... 1 Clear with hearing aids..... 2 Not clear..... 3 Could not hear at all..... 4	
E4	Do you have more or less than 20 teeth?	Less than 20 teeth..... 0 More than 20 teeth..... 1	
E5 (OP90)	Do you wear false teeth?	No..... 0 Yes..... 1	
E6 (OP91)	In the past month , did you experience uncontrollable urination?	No/could control..... 1 Some time..... 2 Yes, could not control at all..... 3	
E7 (OP92)	In the past month , did you experience uncontrollable defecation?	No, could control..... 1 Some time..... 2 Yes, could not control at all..... 3	

Q no.	Question and instructions	Code categories	Skip to
E8 (OP93)	During the past 5 years (2011-2016), did you ever get so sick that you could not perform your daily activities?	No..... 0 Yes..... 1	---> E12
E9 (OP94)	The last time you were sick, did you use the government health service/care welfare (e.g., Eledery Card, Health Insurance Card/Social Security Card/Compensation Fund/Civil Servant Welfare/Pulic Enterprise Employee Welfare)?	No..... 0 Yes..... 1	--->E11
E10 (OP94)	Reason for not using the government health service/care welfare (One answer only)	Unaware of the rights..... 01 Have welfare from employer.....02 Did not live in the area where services are given..... 03 Minor illness.....04 Accident/emergency.....05 No money for transportation fares..... 06 No one to take me..... 07 The site of the service is too far/inconvinient..... 08 Lack of trust in quality of service/poor treatment (not cured)..... 09 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	

Q no.	Question and instructions	Code categories	Skip to
E11	Last time you were sick, how did you treat your illness (last method)?	Did not treat..... 00 Bought drugs from phamaarcy..... 01 See local/traditional healers..... 02 Tambon Health Promotion Hospital / Public Health Service Center/ Community Health Center..... 03 Community Hospital..... 04 General/Central Hospital..... 05 University Hospital..... 06 Other Gov't Hospital..... 07 Private Hospital..... 08 Private Clinic..... 09 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	
E12 (OP95)	In the past year , did you have the annual health/physical check up? (which is not a check up due to illness)	No..... 0 Yes, government health outlet..... 1 Yes, private health outlet..... 2	
E13 (OP100)	In the past six months , did you ever fall while walking/standing or fall from bed/chair/high site? (Not fall from being hit/bumped) If Yes, how many times?	No 1 Yes, 1 time..... 2 Yes, 2–3 times..... 3 Yes, 4–5 times..... 4 Yes, 6 times..... 5 Yes, more than 6 times..... 6	---> E17
E14 (OP101)	Where did you last fall?	Inside the house..... 1 Area around the house..... 2 Outside the house..... 3	

Q no.	Question and instructions	Code categories	Skip to
E15 (OP102)	What was the main cause of your last fall? (One answer only)	Slipped..... 1 Stumbled/tripped..... 2 Different floor levels..... 3 Fell from stairs.....4 Fainted/dizziness..... 5 Other (specify)..... <input type="checkbox"/>	
E16 (OP103)	Did you have to be admitted to a health service outlet for your last fall? (Interviewer: If “Yes”, prob how were you treated?)	No (minor injured)..... 0 Self care (Bought medicines from drugstore)..... 1 Yes, as an out-patient..... 2 Yes, as an in-patient..... 3 Other (specify)..... <input type="checkbox"/>	

E17 (OP104- OP117)	Could you do the following activities by yourself? (Interviewer: Ask each item below:)	Not at all	Yes, with aid by someone or equipment/ with some difficulty	Yes
a	Eat	0	1	2
b	Put on clothes	0	1	2
c	Take a bath	0	1	2
d	Wash face/ brush teeth	0	1	2
e	Go to bathroom/toilet (Incl. cleaning body after urinating/defacting)	0	1	2
f	Shave/comb/tie hair	0	1	2
g	Put on shoes	0	1	2
h	Squat	0	1	2
i	Lift heavy thing (about 5 kgs.)	0	1	2
j	Walk about 200-300 metres	0	1	2
k	Walk up 2-3 steps	0	1	2
l	Take a bus/ boat alone	0	1	2
m	Count exchange money correctly	0	1	2
n	Take medicines correctly and completely	0	1	2

Q no.	Question and instructions	Code categories	Skip to
E18	Interviewer: Circle the appropriate category.	OP is the respondent..... 1 Have a proxy interview..... 2	---> E25

E19 (OP118- OP124)	In the past month , how frequent did you experience the following symptoms or feelings? (Interviewer: Ask each item below:)	Never	Sometime	Often/always
a	Loss of appetite	0	1	2
b	Stress/Worry	0	1	2
c	Fussy/irritate	0	1	2
d	No hope in life	0	1	2
e	Feel life is worthless	0	1	2
f	Feel unhappy and sad	0	1	2
g	Feel lonely	0	1	2

Q no.	Question and instructions	Code categories	Skip to
E20 (OP125)	From the score of 0-10, 0 means not happy at all, and 10 means very very happy, how do you rate your level of happiness in the past 3 months?	.....scores <input type="checkbox"/> <input type="checkbox"/>	
E21 (OP126)	Interviewer: Circle the appropriate category, while asking about happiness level in E19 and E20, if the OP was alone with the interviewer.	Yes, alone with interviewer..... 1 Other present..... 2	

Q no.	Question and instructions	Code categories	Skip to												
E22	<p>Now, I shall say to you 3 things only once. Please listen carefully and I shall ask you to repeat them.</p> <p>(Interviewer: Speak slowly and clearly.</p> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;"> <p>“Tree, Car, hand”</p> </div> <p>(No need for correct order of the answer)</p>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Correct</th> <th style="text-align: center;">Incorrect</th> </tr> </thead> <tbody> <tr> <td>Tree</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Car</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Hand</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>		Correct	Incorrect	Tree	1	0	Car	1	0	Hand	1	0	
	Correct	Incorrect													
Tree	1	0													
Car	1	0													
Hand	1	0													
<p>Interviewer: After the respondent answers the question, interviewer repeats the 3 words: “tree, car, hand” to the elderly respondent until he/she could remember them. Tell the respondent that you will ask him/her about these 3 things again in a short while.</p>															
E23a	If you have 100 Baht and you spend 7 baht buying thing, how much do you have left?	<p>Incorrect answer..... 0</p> <p>Correct answer (100-7= 93)..... 1</p>	---> E24												
E23b	From 93 Baht you have left, you spend another 7 Baht buying thing, how much do you have left?	<p>Incorrect answer..... 0</p> <p>Correct answer (93-7= 86)..... 1</p>													
E24	<p>The 3 words I asked you to remember a while ago, what are they?</p> <p>(No need for correct order of the answer)</p>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Correct</th> <th style="text-align: center;">Incorrect</th> </tr> </thead> <tbody> <tr> <td>Tree</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Car</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Hand</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> </tr> </tbody> </table>		Correct	Incorrect	Tree	1	0	Car	1	0	Hand	1	0	
	Correct	Incorrect													
Tree	1	0													
Car	1	0													
Hand	1	0													

E25 (OP127- OP131)	In the past 6 months , how frequent did you perform the following activities? (Interviewer: Read out each item below:)	Never	Sometime	Always (Daily/ almost daily)
a	Excercise (Incl. labored work)	0	1	2
b	Eat fresh vegetables/fruits	0	1	2
c	Drink cleaned water 8 glasses or more/day	0	1	2
d	Drink whisky/alcohol	0	1	2
e	Smoke	0	1	2

E26 (OP132- OP140)	In the past year , did you receive free following health care services/assistance from the State/Government? (Interviewer: Read out each item below:)	No need	No	Yes
a	Vaccination for pneumonia/flu/birth flu		0	1
b	Denture	8	0	1
c	Eye glasses	8	0	1
d	Eye operation/treatment	8	0	1
e	Wheel chair	8	0	1
f	Annual health check up (not due to illness)		0	1
g	Home visit by health service worker (from Tambon Health Promotion/ State Hospital)		0	.....times/yr
h	Cared by Old Age Home Health Care Volunteer (๐๙๙.)		0	.....times/yr

Q no.	Question and instructions	Code categories	Skip to
E27 (OP141)	Do you want someone to help with your daily life activities (e.g., medicine preparation, laundry, housework, eating, bathing, face washing, brushing teeth, toileting etc.)?	No..... 0 Yes..... 1	

E28 (OP142- OP151)	In the pasr month , did you receive service/care in daily activities from the the following persons (Interviewer : Read out each item below:)	No such person	Not receive	Yes
a	Spouse	8	0	1
b	Son	8	0	1
c	Daughter	8	0	1
d	Son/daughter in-law	8	0	1
e	Grand children	8	0	1
f	Sibling/relatives	8	0	1
g	Friends/neighbor/acquainted	8	0	1
h	Hired carer (Incl. nurse/assistant nurse)	8	0	1
i	Servant/employee	8	0	1
j	Other (specify).....	8	0	1

Q no.	Question and instructions	Code categories	Skip to
E29 (OP152)	In the past month , who was the main person providing care for your daily activities? (One answer only)	No carer/self care..... 00 Spouse..... 01 Unmarried son..... 02 Married son..... 03 Unmarried daughter..... 04 Married daughter..... 05 Grand children..... 06 Son/daughter in-law..... 07 Sibling..... 08 Parent..... 09 Employess/servant..... 10 Nurse..... 11 Assistant nurse..... 12 Carer from Carer Provision Center/ hired carer..... 13 Old age carer volunteer..... 14 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	

Section F Preparation for Old Age

Q no.	Question and instructions	Code categories	Skip to
F1	Interviewer: Circle the appropriate category	Self response OP..... 1 Proxy interview..... 2	---> G1

F2	Have you ever thought and/or prepared for old age in the following aspects? (Interview: Ask each item below:)	No	Thought/not prepare	Thought and prepared
a	Finance (e.g., saving money/gold/assets etc.,) (OP154)	0	1	2
b	Physical Health (e.g., exercise, check up health, eat nutritious food, no drinking, no smoking etc.) (OP155)	0	1	2
c	Housing, Living arrangements (e.g., renovate the house suitable for old age living, etc.) (OP156)	0	1	2
d	Mental health (e.g., meditating, singing, dancing etc.,) (OP157)	0	1	2
e	Arrange for prospective carer for old age (OP158)	0	1	2
f	Join club/group, being a volunteer	0	1	2
g	Prepare job/occupation suitable for old age	0	1	2

Section G Activity Participation, Exposure to Information and Value of Older Persons

Name of groups/clubs	G1 (OP160-OP165) At present , are you a member of the following groups/clubs?		G2 (OP166-OP171) In the past 3 months , did you participate in the activity of the following groups/clubs?			G3 Ask those answer "0" or "2" in G2 In the past year , did you participate in the activity of the following groups/clubs?		
	No	Yes	No	Yes	The group/club had no activity	No	Yes	The group/club had no activity
	a	0	1	0	1	2	0	1	2
b	0	1	0	1	2	0	1	2
c	0	1	0	1	2	0	1	2
d	0	1	0	1	2	0	1	2
e	0	1	0	1	2	0	1	2
f	0	1	0	1	2	0	1	2

Q no.	Question and instructions	Code categories	Skip to
G4 (OP172)	In the past year , did you participate in the village/community's activities (e.g., Elderly Day, Songran Day, Merit making etc.)?	No..... 0 Yes..... 1	
G5 (OP173)	In the past year , how frequent did you go to temple/church/mosque?	No..... 0 Yes, 1-3 times..... 1 Yes, 4-6 times..... 2 Yes, 7-11 times..... 3 Yes, 12 times or more..... 4	

G6 (OP174- OP181)	In the past month , did you receive information related to /useful to elderly (e.g., how to care oneself at old age, how to have good health at old age, financial management in old age, elderly rights etc.) from the following sources?	No	Yes
a	Village/community lead speaker	0	1
b	Radio	0	1
c	Television	0	1
d	Newspaper/magazine	0	1
e	Pamphlet/brochure	0	1
f	Announcement Board/Poster	0	1
g	Internet/computer	0	1
h	Persons (e.g., community leaders/ volunteers, elderly care volunteer, relatives, friends etc.,)	0	1

Q no.	Question and instructions	Code categories	Skip to
G7	Interviewer: Circle the appropriate category	Self response OP..... 1 Proxy interview..... 2	---> H3

Activities		G8. Do you want to take part or assist society in the following activities ?		G9. Do you think that you are well prepared/available to take part or assist society in the following activities?		G10. In the past year , did you take part or assist society in the following activities?	
		No	Yes	Not prepared	Prepared	No	Yes
a	Transfer knowledge/skills/experience or be a lecturer	0	1	0	1	0	1
b	Volunteer work	0	1	0	1	0	1
c	Provide care for other OP.	0	1	0	1	0	1
d	Assist in the community/society work, occasionally	0	1	0	1	0	1
e	Be a committee/consultant	0	1	0	1	0	1
f	Donate money/things to help others	0	1	0	1	0	1

Now, I would like to ask about some incidents you may have experienced since you entered old age.

G11	questions	Never	Sometime	Often
a	Applied for a job, but was declined due to being old	0	1	2
b	Made fun of because of being an elderly	0	1	2
c	Your views were not accepted because of being an elderly	0	1	2
d	Being badly treated from service workers (e.g., nurse, bus conductor, waiter etc.,) because of being an elderly	0	1	2

Section H: Satisfaction with Public Services and Welfare Systems

H1 How satisfied are you with the following public services and welfare systems? (OP186-OP193) (Interviewer: Ask each item below:)							H2 In the past year, did you ever use Public Services and Welfare Systems?	
Public Services and Welfare Systems		Very dis-satisfied	Dis-satisfied	Satisfied	Very satisfied	D.K.	Never/ never received/ D.K.	Yes
a	Government health service system	0	1	2	3	9	0	1
b	Private health service system	0	1	2	3	9	0	1
c	Land transportation system (bus, train, sky/underground train)	0	1	2	3	9	0	1
d	Water transportation system	0	1	2	3	9	0	1
e	Air transportation system	0	1	2	3	9	0	1
f	Pre-disaster warning system	0	1	2	3	9	0	1
g	Emergency aids	0	1	2	3	9	0	1
h	Loan from the Elderly Fund	0	1	2	3	9	0	1

Q no.	Question and instructions	Code categories	Skip to
H3	Overall, how satisfied are you with the services and assistance to the elderly from the government?	Very dis-satisfied..... 1 Dis-satisfied..... 2 Satisfied..... 3 Very satisfied..... 4	
H4 (OP195)	Interviewer: Record who is the respondent of this interview?	Elderly answered all..... 1 Household member..... 2 Elderly and hh. member together.. 3 Elderly and person outside hh..... 4 Neighbor..... 5	--->H6

Q no.	Question and instructions	Code categories	Skip to
H5 (OP196)	Main reason for proxy. (One answer only)	Elderly is sick..... 1 Elderly has speaking/hearing problem..... 2 Elderly is dementia..... 3 Elderly has mental problem..... 4 Elderly is not co-operative..... 5	
H6	Finished time of interview in this part.....Hour.....Minute <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

College of Population Studies

Section I: Information about Carer and Carer's Knowledge (Care Giver Interview)

Q no.	Question and instructions	Code categories	Skip to
11	Started time of interview of this part.....Hour.....Minute <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
12 (OP197)	Interviewer: Check answer in E29 and circle the appropriate answer.	No carer/self care..... 0 Has a carer (E29 codes "01-14")..... 1	--->Finish interview
13	Result of the main care giver's interview	Yes, completed..... 1 No (specify reason)..... <input type="checkbox"/>	---> Finish interview
14 (OP198)	Sex of the main care giver	Male..... 1 Female..... 2	
15 (OP199)	Age of the main care giver. (Record in completed year)	Age..... years old <input type="checkbox"/> <input type="checkbox"/>	
16 (OP200)	What is your (the care giver) relationship with the elderly whom you take care of?	Spouse..... 01 Unmarried son..... 02 Married son..... 03 Unmarried daughter..... 04 Married daughter..... 05 Grand children..... 06 Son/daughter in-law..... 07 Sibling..... 08 Parent..... 09 Employee/servant..... 10 Nurse..... 11 Assistant nurse..... 12 Carer from Carer Provision Center/ hired carer..... 13 Old age carer volunteer)..... 14 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	

Q no.	Question and instructions	Code categories	Skip to
17 (OP201)	What is the highest grade of education you (the carer) completed? (Interviewer: Record in details the grade, level, certificate or degree received)	Never in school.....000 Grade..... <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
18 (OP202)	Where do you (the carer) live?	Live with the elderly..... 1 Live next door/nearby 2 Live in the same village/MA.....3 Live in the same province..... 4 Live in other province..... 5	
19 (OP205)	In the past year , how frequent did you provide care for the elderly?	Every day/almost every day..... 1 Every week.....2 Every month..... 3 Every 2-3 months..... 4	
I10	Have you ever been trained about caring for elderly?	No..... 0 Yes..... 1	--->I13
I11	What was the organization providing training course for elderly care you took? (could specify 1 or more organizations)	Ministry of Education.....01 Public Health Ministry..... 02 Ministry of Labor..... 03 Nursing Home/ Elderly care Center..... 04 Hospital..... 05 Medical school..... 06 Care Provision school..... 07 BMA/Local Administration Organization..... 08 Other (specify)..... <input type="checkbox"/> <input type="checkbox"/>	

Q no.	Question and instructions	Code categories	Skip to
I12	How long was the course you have been trained? (the longest one)	.....Day 1 <input type="checkbox"/> <input type="checkbox"/>Month 2 <input type="checkbox"/> <input type="checkbox"/>Year 3 <input type="checkbox"/> <input type="checkbox"/>	
I13 (OP203)	How many years have you experienced in caring for elderly? (including every elderly you have cared for) ? (Record in completed year. If less than one year, record "00")	Number of.....years <input type="checkbox"/> <input type="checkbox"/>	
I14 (OP204)	How many years have you cared for this elderly? (Record in completed year. If less than one year, record "00")	Number of.....years <input type="checkbox"/> <input type="checkbox"/>	
I15 (OP206)	What type of food should be given to relieve/prevent constipation for elderly?	Water or milk..... 1 Fruit/vegetable..... 2 Meat..... 3 Starch..... 4 Other (specify)..... <input type="checkbox"/>	
I16 (OP207)	How many glasses of cleaned water (incl. liquid, soup, juice) do you think elderly should drink a day?	Less than 8 glasses..... 1 8-14 glasses..... 2 More than 14 glasses..... 3	

Q no.	Question and instructions	Code categories	Skip to
I17 (OP208)	If elderly have high fever more than 2 days, what do think you should do?	Wipe elderly's body with cold pad..... 1 Give elderly aspirin..... 2 Wipe body with cold pad and give aspirin..... 3 Take the elderly to see doctor..... 4 Other (specify)..... <input type="checkbox"/>	
I18 (OP209)	In the past 5 months , did the elderly you taking care of receive any assistance/service from the community?	No..... 0 Yes..... 1	

Interviewer: Ask for private interview (separate the carer from the elderly)

Q No.	Question and Instructions	Never	Seldom	Sometime	Frequent	Very frequent
I19	In the past month , how frequent did you feel the stress from taking care of the elderly?	0	1	2	3	4
I20	In the past month , how frequent did you feel that you had poor physical health from taking care of the elderly?	0	1	2	3	4
I21	In the past month , how frequent did you feel that you could not socialize as usual because you have to take care of the elderly?	0	1	2	3	4

Q no.	Question and instructions	Code categories	Skip to
I22	Overall, how did you rate the burden level of taking care for the elderly in the past month ?	Not at all..... 0 Minor..... 1 Moderate..... 2 Heavy.....3 Very heavy.....4	
I23	Finished time of interview this part .....Hour.....Minute <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		

Section J: Interviewer's Observation

Q no.	Question and instructions	Code categories	Skip to															
J1	Is the following present during the interview?	<table border="0"> <tr> <td></td> <td style="text-align: center;">No</td> <td style="text-align: center;">Yes</td> </tr> <tr> <td>a. Spouse.....</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> </tr> <tr> <td>b. Children.....</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> </tr> <tr> <td>c. Other men.....</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> </tr> <tr> <td>d. Other women.....</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> </tr> </table>		No	Yes	a. Spouse.....	0	1	b. Children.....	0	1	c. Other men.....	0	1	d. Other women.....	0	1	
	No	Yes																
a. Spouse.....	0	1																
b. Children.....	0	1																
c. Other men.....	0	1																
d. Other women.....	0	1																
J2	Interviewer: Check answer in J1 and circle the appropriate category.	No one present during the interview.....0 Other person present during interview..1	---> J4															
J3	Did other person present during the interview help answering the questions?	No..... 0 Little..... 1 Some..... 2 A lot..... 3																
J4	Level of co-operation in the interview	No..... 0 Little..... 1 Some..... 2 A lot..... 3																
J5	Reliability level of the answers given.	Some not reliable..... 1 Fair..... 2 Good..... 3 Very good..... 4																
J6	Other observation of the interviewer	Specify..... <input type="checkbox"/> <input type="checkbox"/>																

Supervisor's Observation

Q no.	Question and instructions	Code categories	Skip to
J7	Interviewer's work in overall	Very good..... 1 Fair..... 2 Should be improved..... 3	
J8	Understanding of the questionnaire	Very good..... 1 Fair..... 2 Should be improved..... 3	
J9	Interviewing skill of interviewer	Very good..... 1 Fair..... 2 Should be improved..... 3	
J10	Punctuality of interviewer	Very good..... 1 Fair..... 2 Should be improved..... 3	
J11	Getting along with team mates	Very good..... 1 Fair..... 2 Should be improved..... 3	
J12	Neatness of data recording	Very good..... 1 Fair..... 2 Should be improved..... 3	

Note: (OP...) and (ES-....) are questions from the Survey of Older Persons in Thailand, 2011 conducted jointly by the National Statistical Office, Ministry of Social Development and Human Security, and The College of Population Studies of Chulalongkorn University

Table for Age Matching with the Animal Year, 2016

Birth year	Birth year cycle	1		2		3		4		5		6		7		8	
		Age	B.E.	Age	B.E.	Age	B.E.	Age	B.E.	Age	B.E.	Age	B.E.	Age	B.E.	Age	B.E.
San	Monkey	0	2559														
Med	Goat	0	2558	12	2546	24	2534	36	2522	48	2510	60	2498	72	2486	84	2474
Sanga	Horse	1	2557	13	2545	25	2533	37	2521	49	2509	61	2497	73	2485	85	2473
Sai	Snake	2	2556	14	2544	26	2532	38	2520	50	2508	62	2496	74	2484	86	2472
Si	Dragon	3	2555	15	2543	27	2531	39	2519	51	2507	63	2495	75	2483*	87	2471
Ngao	Rabbit	4	2554	16	2542	28	2530	40	2518	52	2506	64	2494	76	2482	88	2470
Yi	Tiger	5	2553	17	2541	29	2529	41	2517	53	2505	65	2493	77	2481	89	2469
Pao	Ox	6	2552	18	2540	30	2528	42	2516	54	2504	66	2492	78	2480	90	2468
Jai	Rat	7	2551	19	2539	31	2527	43	2515	55	2503	67	2491	79	2479	91	2467
Gai	Pig	8	2550	20	2538	32	2526	44	2514	56	2502	68	2490	80	2478	92	2466
Sed	Dog	9	2549	21	2537	33	2525	45	2513	57	2501	69	2489	81	2477	93	2465
Lao	Cock	10	2548	22	2536	34	2524	46	2512	58	2500	70	2488	82	2476	94	2464
San	Monkey	11	2547	23	2535	35	2523	47	2511	59	2499	71	2487	83	2475	95	2463

Note: 1. People who were born since B.E.2484

1) Record their age shown in the table.

2) If born between January and the interview month, always add 1 to the age appeared in this table.

2. People born before B.E.2484 and born between January and interview month, do not add 1

*3. People born in B.E. 2483 had only 9 months (April-December). Those born in January and March re treated as born in B.E.2484.

Table for matching month
In case the respondent gave birth month

Lunar month, use this table
Match to standard month and record in the questionnaire

Central/ South/ Northeast	Standard	North
2	January	4
3	February	5
4	March	6
5	April	7
6	May	8
7	June	9
8	July	10
9	August	11
10	September	12
11	October	1
12	November	2



VITA

NAME Daria Turavinina

DATE OF BIRTH 14 June 2001



จุฬาลงกรณ์มหาวิทยาลัย
CHULALONGKORN UNIVERSITY