



## Expectancy on Being Older Persons and Self-Preparation for Old Age in Middle-Adults: Bang Phlad, Bangkok Metropolis

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### Abstract

The purposes of this study were to assess the level of expectancy on being older persons and of the self-preparation for old age in middle-aged adults (ages between 35-60 years); and to estimate an equation to predict the self-preparation of middle-aged adults from the demographic factors and the expectancy on being older persons. The sample of 400 persons were recruited from middle-aged adults who were qualified with the predetermined criteria, using multi-stage random sampling technique. Data was collected using the questionnaire, developed by the researchers, consisted of 3 sections: the personal data, the expectancy on being older persons and the self-preparation for old age. The CVIs of sections 2 and 3 of the questionnaire were 0.97 and 1.0 with reliabilities of 0.92 and 0.93 respectively.

It was found that the expectancy of the sample on being older persons in general was at a high level (Mean 4.07, S.D. 0.66) and the self-preparation for old age in general was also at a high level (Mean 4.00, S.D. 0.55). The variables, which were analyzed using chi-square tests and Pearson's Product Moment Correlation test and found significantly associated with the self-preparation for old age, were later included to formulate a prediction equation of the dependent variable.

The Stepwise multiple regression analysis revealed the equation that best predicted the self-preparation for old age, with the Coefficient of determination ( $R^2$ ) of 0.467 ( $R=.685$ ). The equation included independent variables as follows: the expectancy on being older persons on spiritual and physical aspects, working for government/state enterprise/private company, practicing Buddhism, and having education at vocational certificate or higher levels. The implications of research findings and recommendations for future practice were discussed.

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## Introduction

At present, world population aged 60 years and over has been increasing rapidly. Thailand is now an aging society, according to UN's definition, with an elderly population of about 11 million (16%) out of 63 million total population in 2018. Among all provinces in the country, Bangkok Metropolis has the highest number of elderly which accounts for 17.98 percent of total population (Department of Provincial Administration, Ministry of Interior, 2019). While the growth rate of country population is slowly increasing about 0.4 percent /year, but the population aged 60 and above has been increasing with the rate of 5 %/year, and the population aged 65 and above has been increasing even faster with the rate of 6 %/year (Foundation of Thai Gerontology Research and Development Institute, 2016). It was estimated that by the year 2021, Thailand will become complete aged society with the proportion of elderly population greater than 20% (Foundation of Thai Gerontology Research and Development Institute, 2017).

As a person becoming older, changes in various areas namely physical, psychological, emotional, social and economic aspects causing several problems. According to report on the Situation of the Thai Elderly 2017 (Foundation of Thai Gerontology Research and Development Institute, 2017), over 15% of the elderly reported that they had a poor or very poor health status. The most common health problems affecting older persons due to organ degenerations including cataracts, impaired hearing loss, impaired chewing ability due to tooth loss, osteoarthritis, dementia, and fall. According to the 5<sup>th</sup> national health survey by examination 2014 (Ekpalakorn, 2014), it was found that 22.3% of older persons had cataracts, 24.5% lived with impaired hearing loss, 52% had less than 20 teeth (permanent teeth and denture) causing impaired chewing ability, 22.5% with osteoarthritis, 8.1% with dementia, and 16.9 had a fall in the last six months. It was also found that some common chronic conditions frequently found among older persons were hypertension (53.2%), diabetes mellitus (18.1%), obesity (35.4%), abdominal obesity (49.4%) and metabolic syndrome (46.8%) (Ekpalakorn, 2014). These health problems are involved with one's behaviors since younger ages e.g. food consumption, exercise, smoking, alcohol drinking.

Such changes impair elderly's self-care abilities and become more dependent on family supports. Regarding to report on the Situation of the Thai Elderly

2017 (Foundation of Thai Gerontology Research and Development Institute, 2017), five percent of older persons cannot help themselves with daily life activities and the number has increased to 19% among late elderly (80 years old and over). Nowadays, family's potentials in providing care for older persons have been greatly compromised due to several factors. It was shown that extended families where older persons stayed with their families tend to decrease from 61.4% in 2003 to 58.3% in 2007. It was also found that the ratio of older persons living alone tend to be on the rise from 3.6% in 1994 to 6.3% in 2002, 7.7% in 2007 (National Statistical Office, 2013) and 11% in 2017 (Ekpalakorn, 2014). Similarly, the Potential Support Ratios which is defined as the number of people aged 15-64 per one older person aged 65 years and above are in the downward trend, having the ratio of 9.3 in 1994 to 7.0 in 2002 and 6.3 in 2007 (National Statistical Office, 2013). It was estimated that the ratio will be decreased to 3.8 in 2020 (Ekpalakorn, 2014). The current ratio can be interpreted that there will be less caregivers for each elderly since only four working-age persons will take care of each older person. The decline of the Potential Support Ratio would greatly impact the society in general since people in the working age had to share more burdens in caring for older persons. If this trend continues, both caregivers and older persons would be evenly weakened.

Problems concerning elderly have always been managed through reactive instead of proactive approaches with services provided to the elderly to address health problems and in response to elderly caring needs. Health promotion and disease prevention have already been realized as more effective approaches than curation and rehabilitation. Additionally, early investments by elderly themselves and the government have already been proved to be more cost effective. In practice, the preparation for ageing society should be started as soon as possible. Middle adulthood (ages 35-60 years) is considered a longer period when comparing to other age groups. This age group has the highest potential and productivity. People in this age group are adaptive and have ample life experience. If they realize the importance of preparation towards old age, it is most likely they will be able to adjust to the elderly well in both physical and other aspects. They will become independent and have good quality of life, matched with the concepts of "Active Aging" where persons and families realize and continuously gain responsibility in self-care (Nantsupawat, 2009). But the statistics showed that more

than 30% of Thai younger ages had not prepared themselves for good quality of old age in terms of health and financial security (Pooprasert, 2018).

Based upon the literature review, it was found that almost all studies on the adulthood's preparation to elderly were descriptive studies focusing on how persons prepare themselves for elderly as well as factors that played the role in the preparation process. For example Katisrivorapan (2008) explored psychosocial factors that related to retirement preparation behaviors among teachers ages between 45-59, while Pattrapakdikul, et al. (2011) examined factors associated with the preparations towards old age in 263 Faculty of Medicine of Prince of Songkla University's personnel aged 40 years and older. It was found from the latter study that age, marital status and salary were associated with preparation towards old age. In addition, other studies looked at elderly's and elderly-to-be's expectations. For instance, Meankerd examined value, elderly's expectations and age pluralism in a mixed-method of qualitative and quantitative study in both elderly and adult ages 15-59 years (all are called "plural age") in Bangkok and 16 other provinces (Meankerd, 2006). However, there is neither study that focused on expectations on being elderly nor which other factors would play roles in the self-preparation for old age in middle-adults. This reflects the importance of conducting a study on expectancy and self-preparation for old age in middle-adults in comprehensive aspects.

Bang Phlad district was selected as the study site because of the location of the Faculty of Nursing. The Faculty has been working closely with the community through the students' practice in Community Health Practicum courses. This area is determined by the Faculty to be learning resources for faculties and students as well as a location where the faculty can provide academic services. Furthermore, understandings from this study would provide as an input for the Bangkok Municipality or other related agencies to use as an input for policy setting and strategic planning for aging population.

The objectives of this study were to explore the levels of expectancy on being older persons and self-preparation for old age in middle-adults. Its objective was also to test the relationships between demographic factors, expectancy on being older persons and self-preparation for old age. Vroom's Expectancy Theory (Management Study Guide Website, 2016) which states that persons would gain motivation toward certain behavior when they expect the results or rewards that

would follow such behavior and whether the results or rewards had high impact to them, was used as the framework of this study. The hypothesis of this study was that expectancy on being older persons and that demographic factors were associated and able to predict self-preparation for old age in middle-aged adults.

## Methods

The population in this study were middle-aged adult ages between 35-60 years residing in Bang Phlad district, Bangkok. According to statistics on population and household by age groups in Bang Phlad district, Bangkok in December 2013, there were the total population of 39,200 persons middle-aged adults (Department of Provincial Administration, Ministry of Internal Affairs, 2016). The whole population could be divided to 10,016, 10,364, 8,111 and 10,709 persons from Bang Phlad, Bang or, Bang Bamru and Bang Yi Khan sub-districts, respectively. The sample determination was done using multi-stage sampling through the use of Glenn D. Israel's table (Israel, 2009) where the population was between 25,001-50,000 with 5% errors (95% confidence level) yielding the sample size of 397. The sample within sub-districts were calculated using the population proportion yielding the sample size of each sub-district as follows: Bang Phlad = 101, Bang or = 105, Bang Bamru = 82, and Bang Yi Khan = 109 persons.

### 1. Scope of the study

This study aims at exploring middle-aged adults' expectations and self-preparation towards elderly. The inclusion criteria of the qualified samples included being Thai citizen, ages between 35-60 years old, able to read and write Thai language, fully orientation, residing in Bangkok for five years or more, and are in good health. The study exempted persons with disabilities that require special assistances from other people to be included in the samples. The study was conducted during October, 2015 and October, 2016. It was approved by the Institutional Review Board (IRB) under Suan Dusit University Institute of Research and Development (Approval number SDU-RDI 2015-006).

### 2. Definitions

In addition to the aforementioned Vroom's Expectancy Theory, the conceptual framework of this study was formulated by looking how people would expect the wellness of their life should be when they become old age. According to the National Wellness Institute, wellness is defined, "an active process through which

people become aware of, and make choices toward, a more successful existence” (National Wellness Institute, 2019). Dr. Bill Hettler, co-founder of the National Wellness Institute encompassed six dimensions of wellness namely:-emotional, occupational, physical, social, intellectual and spiritual; while some others comprise wellness as many as eight dimensions i.e. occupational, emotional, spiritual, environmental, financial, physical, social, and intellectual (Stoewen, 2015). Wellness and health are terms that are often interchanged but they are not the same. Health is a state of being, whereas wellness is the state of living a healthy lifestyle. Health refers to physical, mental, and social well-being; while wellness aims to enhance well-being (University of California, Davis Campus, 2019). In this study, we considered that when people expected how their life in old ages should be, they would have a motivation to take action to prepare themselves. To make it simple for ordinary people, we grouped the self-preparation process for old age into four dimensions i.e. physical, psychological, spiritual and socio-economic aspects. Extensive search was done to get the information on how middle-aged adults should prepare themselves on each aspect to achieve their wellness. Research instruments were then developed by researchers according to the concepts and definition stated below.

2.1 Self-preparation for old age is defined as issues that persons in middle adulthood (ages 35-60 years) have realized, prioritized or attempted to seek for information, measures and put into actions, training, or practices in physical, psychological, spiritual, economic and social dimensions in order to help them make a smooth transition to be older persons with happiness and quality of life according to the persons’ potentials and life contexts.

2.2 Physical preparation includes person’s activities involved with nutrition, exercise, resting and sleeping, personal hygiene, health information seeking, regular check-up, self-care while being sick and accident prevention.

2.3 Psychological preparation includes person’s activities involved with having good mental health, positive attitudes, good relationships with people, effective stress management and emotional control and conflict resolution, love and respect in oneself and others, self-confidence, self-responsibility, flexible personality and easily approachable, open-minded and ready to listen to other’s opinions and understanding other’s feelings.

2.4 Spiritual preparation includes person’s activities involved with seeking for the meaning of life, going to Buddhist temples, churches, mosques or other places to practice religious or faith activities, reducing selfishness through giving and providing community services, forgiving and being ready to apologize, practicing and developing oneself through learning and contemplating on events that occur to oneself or observe from others’ experiences, facing life’s problems and difficulties without being despair while maintaining hope, being able to detach to problems or troubles that are greater than one’s capabilities.

2.5 Socio-economic preparation includes person’s activities involved with having jobs or professions that yield income and life security, saving for future, maintaining good relationships with one’s family, relatives and neighbors, participates in community and social networks, learning technologies for communications; and being ready for the changes of the society.

2.6 Expectancy on being older persons in this study includes what persons in middle-age expect when they become elderly such as health conditions, the care they may need from families, relatives, community or social groups they belong to, as well as government and related agencies regarding to physical, psychological, spiritual and socio-economic aspects.

### 3. Research conceptual framework

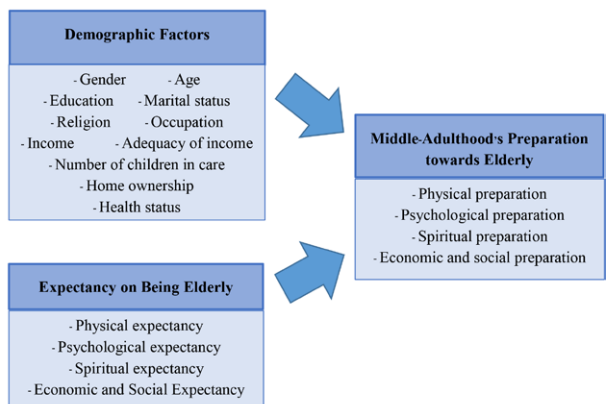


Fig. 1 Conceptual framework of this study.

Based on the literature reviews, the conceptual framework of this study included independent variables as follows: 1) Demographic factors: gender, age, education, marital status, religion, occupation, income, adequacy of income, number of children in care, home



ownership and health status; 2) Expectancy on being older persons on physical, psychological, spiritual and socio-economic aspects. The independent variables were examined whether they are associated with the dependent variable of the study: Self-preparation for old age which also included physical, psychological, spiritual and socio-economic aspects.

#### 4. Research instrument development and validation

The instrument used in this study was a questionnaire developed by the researchers based on theoretical concepts from the literature review. The instruments were consisted of 3 parts: 1) general information of the respondents in which consisted of 16 multiple-choice items; 2) expectancy on being older persons in physical (8 items), psychological (5 items), spiritual (6 items) and socio-economic (5 items) aspects totaling 24 five-level rating scale questions; and 3) self-preparation for old age covering physical (16 items), psychological (16 items), spiritual (10 items) and socio-economic (12 items) aspects for the total of 54 five-level rating scale questions. The instrument was tested for face and content validity through the revisions of three experts in adult and elderly care and measurement and evaluation, yielding the content validity index (CVI) from expectancy on being older persons and self-preparation for old age parts of 0.97 and 1.0 respectively. The tests for reliability with 30 respondents who possessed equal characteristics as the samples in this study showed high reliabilities with Cronbach's alpha coefficients from those two parts of 0.92 and 0.93 respectively.

The sampling process in this study was done using multi-stage sampling techniques by randomly selecting 3 communities from each of four sub-districts. Families in each selected community were then systematically identified through consultations with community leaders or Bangkok metropolitan volunteers, after asking permission to collect the data from adult family members that met the selection criteria. The researcher drew a name in-case there were more than 1 adult representing each family, so that only one respondent would represent each family. Data was then collected from each respondent who agreed to participate using the questionnaire according to the protocol on human subject protection approved by the Institutional Review Board (IRB). There was a total of 400 respondents in this study with 101 persons from Bang Phlad, 108 persons from Bang or, 82 persons Bang Bamru and 109 persons from Bang Yi Khan sub-districts.

#### 5. Data analysis

5.1 The descriptive information from the study including demographic data, expectancy on being older persons and self-preparation for old age were analyzed both itemized and as a whole using percentages, means and standard deviations. The interpretation criteria in self-preparation for older age are as follows:

- Average scores between 4.51 and 5.00 were interpreted as the highest level of self-preparation with activities being practiced regularly.

- Average scores between 3.51 and 4.50 were interpreted as a high level of self-preparation with activities being practiced quite regularly.

- Average scores between 2.51 and 3.50 were interpreted as moderate level of self-preparation with activities being practiced occasionally.

- Average scores lower than 2.50 were interpreted as low level of self-preparation with activities being practiced rarely or no activity at all.

For the expectancy on being older adults score, shall be interpreted in the same way that: the average scores between 4.51 and 5.00, 3.51 and 4.50, 2.51 and 3.50, and lower than 2.50 were interpreted as the highest, high, moderate, and low levels of expectation or care needed respectively.

5.2 The associations between personal information and expectancy on being older persons and self-preparation for old age were done using chi-square and Pearson's Product Moment Correlation Coefficients.

5.3 Predictive equations were formulated from the set of independent variables that are significantly associated with the dependent variable using multiple regression analysis.

### Results and discussion

#### 1. Demographic information

The majority of the samples were female (63.7%) with ages ranged from 35-60 years old (Mean = 47.9 years, SD = 7.55) with reported marital status as married (62.3%), practiced Buddhism (85.0%), graduated from elementary schools (26.8%), and had no income or income lower than 10,000 Baht per month (32.6%). When comparing incomes and expenses, the majority of the samples had adequate incomes but had no saving (42.8%) followed by those who had inadequate income with debts (18.8%). Most of them had children (71.4%) while the majority reported having only one child (32.3%). The samples lived in the same households with their parents

(39.8%) and owned their own home (31.8%). Almost half of the samples were in overweight status (BMI between 25.0-29.9 kg/m<sup>2</sup>) (31.1%) and obesity status with BMI exceeding 30.0 kg/m<sup>2</sup> (14.6%). More than half (61.4%) did not have chronic illness. Hypertension (11.0%) and diabetes mellitus (6.0%) were more prevalent among those with chronic illness. Persons with more than one illness accounted for 6.8% of all samples. The majority of samples with chronic illnesses received treatments through contemporary medicine (89.7%). Regarding the Health Insurance Programs for which the samples eligible, it was found that 43.7% were covered by the National Health Security Program (NHSP), while 29.1% were eligible for the Social Security System (SSS).

## 2. Expectancy on being older persons

According to table 1, the samples' overall expectancy on being older persons was at a high level with the highest on physical and psychological aspects while socio-economic aspect being the lowest among all. Item with highest average score in physical expectancy aspect and appeared to be the item with the highest average score overall was "the ability to help oneself with personal daily activities (Mean = 4.54, SD = 0.78). Item with the lowest average score in this aspect was "receiving government/non-government funded housing for elderly. This showed the samples' expectation to being able to help oneself with their daily activities and become less or no burden to their children. Their responded of having their own children taking care of them at home (Mean = 3.82) was higher than the item of staying in special housing for elderly (Mean = 3.02). Teewunda & Sanjai (2010) and Rittirong et al. (2014) also found that elderly who needs assistances would prefer receiving assistances from their children followed by their grandchildren, before receiving such assistances from other people or entities. According to the psychological expectancy aspect, it was found that the item with highest average score were "having good mental health" (Mean = 4.37), followed by "being able to help others and were viewed as being helpful for their

children" (Mean = 4.30), and "receiving love and care as well as respect from their children" (Mean = 4.27). Item with lowest average score was "being carefree with no worry or concerns with any issues." This showed that the samples placed their priority on having good relationships with their children and realistically looked at their future that they might eventually have to confront situations that cause some worries and concerns. According to the spiritual expectancy aspect, items with highest average score was "having spiritual anchor or stronghold that enable oneself to withstand when confront with problems or life's difficulties (Mean = 4.25, SD = 0.84). Three items receiving lowest average scores were "being prepared to appropriately confront illness and the end of life" (Mean = 4.02), "having a peaceful mind" (Mean = 4.10), and "receiving care at the end of life with pride and dignity" (Mean = 4.10). Such findings could be explained that, since the samples were at the middle adulthood with good health and ability to provide for their families, it was possible the end-of-life preparation might not be as yet of their concerns. According to the socio-economic expectancy aspect, item with the highest average score was "receiving news about politics or being able to learn the issues subjected to their interests" (Mean = 4.08, SD = 0.94). Item with lowest average score was "having adequate income to maintain their lives after 60 years of age" (Mean = 3.49, SD = 1.33). This item appeared to be the lowest among all 24 items. It showed from the findings that the samples, while expected to be able to assist themselves, physically, expected to have adequate income after retirement at age 60 years at only an average level.

## 3. Self-preparation for old age

Based on table 2, the samples' preparations for old age both in each aspect and overall were at a high level, ranking from the highest to the lowest levels of preparations as follows: psychological, spiritual, socio-economic, and physical aspects with average scores of 4.30, 4.17, 3.95, and 3.68 respectively. Based on each item, two items with the highest preparation level were "trying to depend on oneself before others" (Mean = 4.56) and "knowing one's responsibility while not placing responsibility to others" (Mean = 4.52). Both items were in psychological aspect, showing the consistency in the findings of their expectancy on being older persons where the samples expected that they could do their personal daily activities by themselves without being burden to their children.

**Table 1** Expectancy on being older persons

Aspects of Expectancy	N	Expectancy on Being older persons		
		Mean	S.D.	Level
Physical Expectancy	381	4.23	0.74	High
Psychological Expectancy	397	4.23	0.75	High
Spiritual Expectancy	393	4.15	0.72	High
Socio-Economic Expectancy	396	3.86	0.87	High
<b>Overall Expectancy</b>	<b>373</b>	<b>4.07</b>	<b>0.66</b>	<b>High</b>

**Table 2** Self-preparation for old age

Aspects of Self-Preparation	N	Self-Preparation for old age		
		Mean	S.D.	Level
Physical Preparation	373	3.68	0.61	High
Psychological Preparation	386	4.30	0.61	High
Spiritual Preparation	385	4.17	0.67	High
Socio-economic Preparation	392	3.88	0.71	High
<b>Overall Preparation</b>	<b>344</b>	<b>4.00</b>	<b>0.55</b>	<b>High</b>

Upon analyzing each aspect, it was found that 3 items with the lowest average score in physical aspect included “exercising at least 3 days per week and at least 30 minutes each day” (Mean = 2.86), “avoiding high fat diets” (Mean = 3.15), and “controlling oneself from becoming abdominal obesity (Mean = 3.18). According to the psychological preparations, all items were at a high level except for 2 items regarding “self-reliance” and “understanding their own responsibilities” having a very high level. Regarding the spiritual preparation, all items were at a very high level. It was important to note that items dealing with preparations within oneself showing spiritual and wisdom development such as “living a meaningful life” and “confronting hardships without despair” had higher average scores than items asking about outward behaviors such as “going to Buddhist temples, churches, or Mosques” or “practicing activities based on beliefs and faith in their religions.” Regarding to the socio-economic preparations, it was found that “having occupations that can generate incomes”, “preparing housing”, “managing appropriate time among works, family and community,” and “being able to catch up with societal changes were items with high average scores.” Items with lowest average score was “preparing money for the future” (Mean = 3.46, SD = 1.46).

Based on the findings, issues required to be promoted among middle-age adults, in order to make a smooth transition to their elderly, in physical aspect included exercises, avoiding high fat food, and controlling the abdominal obesity; in socio-economic aspect included preparing money for their retirement through saving, provident fund, National Saving Fund, Long Term Equity Fund (LTF), Retirement Mutual Fund (RMF), life insurance, etc. Aging is a long process starting even before a person was born and occurred throughout the life. Health status and functional abilities during aging were the accumulation of the person’s lifestyles and activities that occurred previously (Rittirong et al., 2014). According to the Life Course Theory, (Marriage & Family Encyclopedia, 2016; Hutchison, 2001) it was the past that shapes the future and could be explained that

what happened at the early age whether decision makings, opportunities, or life conditions would cumulatively affect the rest of one’s life. Therefore, it is recommended to make adjustment on lifestyles that conducive to health at all ages. One of the myths about aging is that it is always too late making lifestyle change during old age. The fact is that lifestyle changes, even when they begin during old age elderly would help prevent diseases and degeneration of body functions. This will eventually help prolong life as well as increase quality of life (World Health Organization, 2002). Lifestyle change if started early as a person is in adulthood, would definitely yield benefits to the person. As for the item on “preparing money for the future” which got the lowest score was consistent with the national statistics mentioned before that more than 30% of Thai younger ages had not prepared themselves for quality old ages in terms of health and financial security (Pooprasert, 2018). This issue needs proper social interventions to raise awareness and provide knowledge or advice to middle-aged adults so that they can make saving plans to suite with their own life.

#### 4. Association testing among variables

Based on table 3, independent variables that were found significantly associated with adults’ preparations for old age at 0.05 significant level, according to Chi-square test, included gender, educational level, marital status, religion, occupation, salary, adequacy of income, and home ownership with p-value < 0.05. Based on the correlation tests using Pearson’s Product Moment Correlation, variable that significantly associated with adult’s preparations for old age was the adult expectancy on be older persons ( $r = 0.648$ , p-value < 0.01). Therefore, all independent variables were found to be significantly associated with the dependent variable except for health status, age, and number of children in care. Those would be later included in multiple regression analysis.

Findings from this study supported the findings from 2011 study conducted by Pattrapakdikul et al. (2011). Factors namely:- age, marital status and income were found associated with preparation toward elderly among 263 personnel aged 40 years and older from Faculty of Medicine at Prince of Songkla University. Another study by Ratchaneeladdajit (2012) examined food consumption patterns, nutritional status, health-related quality of life, and preparation towards elderly among 230 teachers ages 40-59 years old from Kanchanaburi educational service area 1 and found that gender and age group were significantly associated with person’s preparation toward elderly at 0.05 significant level. It was also found that

**Table 3** Test results of associations among variables

Variables	Preparation Levels						X <sup>2</sup>	P-value
	Low/Moderate		High		Very High			
	n	%	n	%	n	%		
<b>Gender</b>							6.599	0.037*
Female	37	16.7	133	60.2	51	23.1		
Male	17	13.8	90	73.2	16	13.0		
<b>Education</b>							28.126	0.000**
None (in school system) & Primary	27	27.0	62	62.0	11	11.0		
Secondary	15	17.0	62	70.5	11	12.5		
Diploma /Certificate and higher	12	7.7	99	63.5	45	28.8		
<b>Marital status</b>							12.599	0.013*
Single	14	19.2	44	60.3	15	20.5		
Married	24	11.2	151	70.2	40	18.6		
Widowed /Separated	16	29.1	28	50.9	11	20.0		
<b>Religion</b>							12.158	.002**
Buddhism	52	17.7	193	65.6	49	16.7		
Islam	2	4.1	30	61.2	17	34.7		
<b>Occupation</b>							20.750	0.000**
None /Daily Worker	28	24.1	74	63.8	14	12.1		
Government /State enterprise /Company employee	8	6.9	74	63.8	34	29.3		
Merchant /Business owner /Self-employed	18	16.4	74	67.3	18	16.4		
<b>Salary (Baht/Month)</b>							15.901	0.044**
0-10,000	28	24.1	70	60.3	18	15.5		
10,000-20,000	16	14.0	78	68.4	20	17.5		
20,001-30,000	6	12.8	33	70.2	8	17.0		
30,001-40,000	2	6.5	19	61.3	10	32.3		
>40,000	2	5.7	23	65.7	10	28.6		
<b>Adequacy of Income</b>							13.532	0.009**
Adequate with savings	17	12.8	77	57.9	39	29.3		
Adequate without savings	25	17.4	99	68.8	20	13.9		
Inadequate and have debts	12	18.2	46	69.7	8	12.1		
<b>Home ownership</b>							15.607	0.000**
Yes	30	11.7	169	65.8	58	22.6		
No	24	27.6	54	62.1	9	10.3		
<b>Health status</b>							0.158	0.924
No illness /Healthy	32	15.2	138	65.4	41	19.4		
With illness /Not healthy	22	16.7	84	63.6	26	19.7		
			<b>N</b>		<b>R</b>		<b>P -value</b>	
<b>Age</b>			400		0.032		0.558	
<b>Number of children in care</b>			396		.007		0.902	
<b>Expectancy on being elderly</b>			328		0.648		0.000**	

females were 2.6 time better preparing for old age than their male counterparts while older persons were 3 times better preparing for old age than their younger counterparts. However, health status, age and number of children in care were found not significantly related; possibly due to a multi-dimensional nature (included all physical, psychological, spiritual and socio-economic aspects) of the definition of self-preparation for old age. In order for the variables to be significantly associated in the study, all aspects must be associated simultaneously. Therefore, in the current study, the researchers further examined the associations between health status, age and number of children in care and self-preparation for old age in separate aspects. It was found that age was significantly associated with self-preparation for old age in physical aspect only ( $r = 0.122$ ,  $p$ -value = 0.019). No significant association was found between health status and number of children in care with self-preparation for old age in any of four aspects.

## 5. Equations predicting “Self-preparation for old age”

In creating predictive equation from the set of independent variables that associated with the dependent variables (Table 3) using multiple regression analysis, the following steps were followed:

5.1 Preliminary tests including Normality test, Linearity and Homoscedasticity of Homogeneity of variance were conducted. Results from Normality test using graph plotting and Kolmogorov-Smirnov test showed that one independent variable (Expectancy on being older persons-SExp) and the dependent variable (Self-preparation for old age-SP) were not normally distributed. Both variables were then transformed using logarithms, square roots and inverse formations to correct such non-normal distributions (Hair et al., 2010). Square root method was selected for it best provided normal distribution of both variables and met assumptions for multiple regression including normality, linearity, and homoscedasticity

5.2 Variables with nominal scale were transformed to dummy variables (Tirakanant, 2012). There were the total of 12 variables to be tested in the multiple regression while there were 325-364 valid cases yielding the proportion of valid samples: number of independent variables = 27:1 to 30:1. According to Hair et al., the lowest acceptable proportion was 5:1. It was also recommended that, in order to make a confidence reference to the whole population, proportion of sample size and independent variable should be 15-20 : one independent variable (Hair et al., 2010).

5.3 The equation that best predict dependent variable was selected using stepwise regression with Multicollinearity, Independence of Errors and Outliers. Table 4 showed the results from multiple regression in creating an equation that best predicted Self-Preparation for old age (sqr SP).

Table 4 showed the best predictive equation when using the expectancy on being older persons in each aspect namely; physical (sqrSPE), psychological (sqrSPe), spiritual (sqrSSE), and socio-economic (sqrSEE) expectancies as the independent variables instead of the overall expectancy. It was found that all variables in the equation were able to predict about 46.90 percent of the self-preparation for old age ( $R = 0.685$ ,  $R^2 = 0.469$ ). Independent variables included in the equation were Spiritual Expectancy (sqrSSE), Physical Expectancy (sqrSPE), being government officers or business employees (OCC2), practicing Buddhism (RELIGION1), and having education at diploma/certificate levels or higher (EDU3).



**Table 4** Self-preparation for old age: Multiple regression analysis results

Variable	Unstandardized Coef.		Beta	T	Sig.
	B	SE			
Constant	.762	.049		14.893	.000**
sqrSSE	.339	.036	.470	9.346	.000**
sqrSPE	.154	.037	.210	4.133	.000**
OCC2	-.051	.019	-.128	-2.745	.006**
RELIGION1	.055	.022	.104	2.521	.012*
EDU3	-.036	.018	-.095	-2.031	.043*

R = .685	Adjusted R <sup>2</sup> = .461	Durbin-Watson = 1.811
R <sup>2</sup> = .469	SE = .138	Std. Residual Min = -3.014, Max = 2.602

Source of variance	SS	Df	MS	F	Sig.
Regression	5.410	5	1.082	56.639	0.000**
Residual	6.113	320	.019		
Total	11.523	325			

**Remark:** \* Statistical significant at .05 level  
 \*\* Statistical significant at .01 level

The multiple regression analysis in this study met all criteria including no Multicollinearity among variables (with Tolerance values of all variables > 0.10 and VIF < 10) (Tirakanant, 2012). Durbin-Watson Test was 1.811 showing no auto-correlation among variables. Scatter plot of standardized residual were Null plot showing that the error values were random or were independent to each other. The Normal probability plot was in diagonal line showing the normal distribution of the error values (Hair et al., 2010). Additionally, standard residual of the self-preparation for old age (sqrSP) were between -3.014 and 2.602, showing no outliers (Tirakanant, 2012).

The predictive equation from the standardized scores was as follows:

$$Z_{sqrSP} = 0.470 \text{ sqrSSE} + 210 \text{ SPE} - 0.128 \text{ OCC2} + 0.104 \text{ RELIGION1} - 0.095 \text{ EDU3}$$

The equation showed that both Spiritual Expectancy on being older persons (sqrSSE) and Physical Expectancy on being older persons (sqrSPE) influenced the self-preparation for old age of middle-age adults. Given the positive standardized coefficients (Beta), it can be further explained that persons with higher spiritual and physical expectancies will have greater preparations toward elderly. Given the negative Betas, persons working for the government, state enterprise, or private companies will have fewer preparations toward elderly, comparing to other professions. Persons who practice Buddhism will have greater preparations for old age than persons in other religions/faiths. Persons graduated from diploma/certificate levels will have fewer preparation toward elderly when comparing to those graduated from

primary or secondary levels.

Results from these analyses explained that the expectancy on being older persons, especially spiritual and physical aspects had greatest influences on middle-age adults' preparation for older persons, with the adjusted R<sup>2</sup> = 0.417 meaning both variables could predict the variation of the self-preparation for old age up to 41.7 percent. When dummy variables (occupation, religion and education) were included into the equation, the adjusted R<sup>2</sup> only increased by only 5%, yielding the final Adjusted R<sup>2</sup> of 0.461. The findings confirmed Vroom's Expectancy Theory where persons would gain motivation toward certain behavior when they expect the results or rewards that would follow such behavior and whether the results or rewards had high impact to them. Therefore, it can be concluded that middle-age adults' expectancy on spiritual and physical aspects influenced their preparation toward elderly.

In order to gain more understanding on how those demographic variables of middle-age adults influenced their self-preparations, the researchers created predictive equations on self-preparation for old age in each aspect, namely physical, psychological, spiritual and socio-economic aspects. The findings reveal that dummy variables on having no or primary educational level, and practicing Buddhism had positive Betas, while variables on having at least diploma/certificate educational level, working in civil services/state enterprise/private company, owning a house, and being married had negative Betas in predictive equations. These results could be explained using Maslow's Hierarchy of Needs Theory, where human beings' needs starting from basic and increasing once their needs at the lower levels have been fulfilled (Maslow, 1954). Human needs start from physiological needs and advance to safety needs, belonging and love needs, esteem needs, and self-actualization being the highest level. It can be explained that people with limited education as well as income may not meet their basic needs, therefore would put more efforts in preparing themselves for changes such as becoming older persons. Persons with higher educational levels, as well as persons with more secure jobs (working for civil services/state enterprise/private company), owning the house, and being married were the group whose basic needs have been met, requiring fewer preparation toward elderly when comparing to the former group.

The findings also showed that persons practicing Buddhism better prepared themselves toward elderly

than those being Muslim (There were only 2 dummy variables: Buddhism and Muslim). It could be explained from the principles of Buddhism to always “being independent and try to help oneself as much as possible.” This also confirmed with their response where their expectations in helping themselves in personal daily activities was the item with the highest score.

## 6. Implications and Recommendations for Future Practice

6.1 Based on the findings from the study on self-preparation for old age, items with lowest average score reflected the needs to promote their preparation to become quality elderly or active ageing. On physical aspect included exercising, avoiding high fat food, controlling their weight and preventing abdominal obesity and on socio-economic aspect included making financial plans for the future. When realizing that middle-age adults wanted to become self-reliance especially being to do their own personal activities when reaching elderly, it is very important for persons to start paying more attention to their health as early as possible.

6.2 Expectancy on being older persons, especially on spiritual and physical aspects had highest influences on their preparations; it can be used as a guideline in building concerns among adults in order to make a smooth transition toward elderly.

6.3 The predictive equation showed that persons with limited education had better preparation toward elderly than persons with higher educational levels while persons working for civil services/state enterprise/private company had lower level of preparation toward elderly. This finding can be useful to choose target groups in building awareness in preparation toward elderly.

6.4 The results of this study were based on one site study, it needs a careful consideration to apply to other constituencies. Therefore, further investigation is recommended.

## Conclusion

This study represents an attempt to explore middle-aged adults’ expectations and self-preparation towards elderly in comprehensive aspects. The study showed that although the expectations and self-preparation of the sample were both in high level in general, some issues still required to be promoted among middle-age adults in order to make a smooth transition to their elderly. It was also found that middle-age adults’ expectancy especially on spiritual and physical aspects

influenced their preparation toward elderly. Therefore, we concluded that middle-age adults’ expectancy influenced their preparation toward elderly and that the findings supported Vroom’s Expectancy Theory.

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