The Intergenerational Co-residence and Happiness of Elders in Thailand

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Abstract

Intergenerational relationships play a pivotal role in the lives of the elder population, offering a myriad of benefits that contribute to their well-being and societal cohesion. Overall, intergenerational relationships are deeply woven into the fabric of Asian societies, playing a crucial role in fostering respect and support for elders and promoting older persons' happiness. Hence, the aims of this study are twofold: firstly, to scrutinize the impact of living arrangements on the happiness levels of the elderly in Thailand, and secondly, to explore the influence of the gender of a co-residing child on the happiness experienced in old age. This paper employed data from the 2021 Survey of the Older Persons in Thailand collected by National Statistics Office (NSO). Logistic regression is used to explore the related factors of happiness among the elderly. Results showed that compared to living alone, living with at least one child is positively associated with older persons' happiness. Specifically, living with daughter is positively associated with the happiness of older persons, compared to living with son. Various demographic and socioeconomic factors are linked to the happiness of older individuals. Happiness tends to decline with age among the elderly. Those with intermediate and high levels of education exhibit a greater likelihood of happiness compared to those with lower educational attainment. Additionally, positive correlations exist between health status and happiness levels. Moreover, higher income among older adults is associated with increased happiness. Geographically, older individuals residing in regions such as the North, South, Northeast, and Central areas tend to report higher levels of happiness compared to those living in Bangkok. The present findings suggest that the family is an essential support system for older adults. Policymakers should recognize role of family in promoting the happiness of older adults. For example, the government can implement tax deductions for the working population to encourage intergenerational co-residence. Additionally, the government can give subsidies for disadvantaged elders and household with financial constraints to alleviate the burden of old-age support providers.

Keywords: 1) Intergenerational co-residence 2) Elders 3) Happiness 4) Living arrangement

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Introduction

The United Nations has declared that the standard age for people to be described as older people is 60 years old (World Health Organization, 2002, p. 6). As Thailand progresses into the 21st century, it faces a significant demographic shift characterized by an increasingly ageing population. This transformation, known as the "ageing society phenomenon," is a consequence of various socioeconomic factors, including advancements in healthcare, declining birth rates, and improved living standards. As a result, Thailand is witnessing a profound transformation in its population structure, with a growing proportion of elderly individuals compared to younger generations.

Thailand is one of the fastest-ageing countries in the world. The proportion of elderly individuals (aged 60 and above) in Thailand has been steadily increasing. According to data from the United Nations, the percentage of the population aged 60 years and older was around 19.2% in 2022, and it is projected to reach approximately 25% by 2050. Thailand's transition to an ageing society can be attributed to declining fertility rate and increased life expectancy. Like many countries undergoing modernization and urbanization, Thailand has experienced a decline in fertility rates. The total fertility rate (TFR) in Thailand has been decreased from 10.7 to 8.2 per 1000 women from 2018 to 2022. Advances in healthcare, nutrition, and sanitation have contributed to an increase in life expectancy in Thailand. Life expectancy from 2018 to 2022 in Thailand has been rising from 72.7 to 73.6 years for males and from 78.9 to 80.7 years for female.

Economic resources, physical health, social support and cognitive ability usually decreases with ageing (Deary, et al., 2009, p. 3). These changes suggest that ageing might be causing a decline in life satisfaction among older adults (Khodabakhsh, 2022, p. 1). Happiness is used as a proxy for life satisfaction (Hwang and Sim, 2021, pp. 1-2). Happiness is a universal value sought by each individual, and everyone has the right to enjoy it. Considering ageing population, it is important to focus on older adults' happiness because, as their proportion in the total population increases, the influence of their happiness on the overall happiness of the society will also increase.

Family or social support are an important component of older adults' happiness. The previous studies report the relationship between living arrangements and the happiness (Chiang and Lee, 2018, pp. 1-2; Grundy and Murphy, 2018, p. 1). Chiang and Lee (2018, pp. 1-2) reported that family relationships were positively correlated with happiness. In many cultures, including Thailand, strong familial ties have traditionally influenced living arrangements for older adults. Multi-generational households, where older adults reside with adult children and grandchildren, have been common. Co-residence status is an important indicator variable that is used to assess intergenerational relationships. Co-residence between older people and adult children has gained increasing attention due to its potential implications for individuals and societies. Generally, intergenerational co-residence involves mutual support between parents and children. Undoubtedly, this support is a crucial

determinant of well-being in later life, in the form of welfare-state arrangements or family care services.

Potential benefits of co-residence (for both older and younger generations) include availability of intrahousehold companionship, emotional and practical support, and economic benefits from economies of scale (Rendall and Speare, 1995, p. 1; Ruggles, 2009, pp. 1-2; Grundy, 2000, pp. 1-2). Potential disadvantages are reduced autonomy and associated possible reductions in self-esteem, stress attendant on any intrahousehold conflict, and in some cases, overcrowding (Bordone, 2015, pp. 1-3).

In countries with insufficient institutional provisions for healthcare, the presence of adult children, living arrangements, and intergenerational support are crucial factors determining the subjective wellbeing of older persons (Grundy and Murphy, 2018, p. 2; Teerawichitchainan, Pothisiri and Long, 2015, pp. 106-107). Children may increase the happiness of older persons through financial, instrumental, and emotional support (Silverstein, Gans and Yang, 2006, pp. 106-107; Tomassini, Cisotto and Cavrini, 2021, pp. 2467-2469). In other words, older adults living alone were more likely to report feeling sad, hopeless, and worthless than those living with others (Yu, Hou and Miller, 2018, p. 150). However, children may reduce the happiness of older persons if they feel that the children are a burden or a cause of worry to them (Li and Mutchler, 2020, pp. 477-478). These findings suggest that older adults' feeling of happiness differ according to their living arrangements. It is important to identify factors influencing older adults' happiness according to their living arrangements and, accordingly, develop strategies to improve their happiness.

Therefore, it is important to identify factors influencing elderly's happiness according to their living arrangements and, accordingly, develop strategies to improve their happiness. The objectives of this study are: (1) to examine the effect of living arrangements on happiness of the elderly in Thailand and (2) to investigate how the gender of a co-residing child affects old-age happiness. The remainder of this paper is organized as follows. Section 2 summarizes the results of previous studies on living arrangements. Section 3 explains methodology, including the data and model. Section 4 presents, explains and discusses the estimation results, while conclusions are presented in section 5.

Literature Review

Co-residence is often conceived as a channel for the exchange of social, emotional, practical and financial support between parents and children. There is no consensus about whether living with children is beneficial to elders' well-being. Studies used different indicators to reflect well-being such as depression (Aranda, 2015, pp. 14-15; Courtin and Avendano, 2016, pp. 141-142; Chan, et al., 2011, p. 632; Jeon, et al., 2007, p. S327), psychological health (Teerawichitchainan, Pothsiri and Long, 2015, p. 109), happiness (Sukontamarn, et al., 2023, p. 1735; Grundy and Murphy, 2018, p. 4; Yuan, Zheng and Hui, 2021, p. 732), life satisfaction (Matsuura and Ma, 2021, p. 910).

Many studies have investigated the potential implications of living arrangements for elders' well-being. Intergenerational co-residence was associated with reduced risks of depression among people aged 50 and older (Aranda, 2015, pp. 18-20; Courtin and Avendano, 2016, p. 148). Co-residence with children is positively associated with older persons' happiness (Sukontamarn, et al., 2023, p. 1742; Grundy and Murphy, 2018, pp. 6-7; Yuan, Zheng and Hui, 2021, pp. 743-744), life satisfaction (Chen and Short, 2008, p. 1392), and subjective well-being (Chen and Short, 2008, p. 1392). One reason is that under cultures in which intergenerational ties are highly valued, co-residence with children has a positive influence on life satisfaction, mental health, well being of elders.

In contrast, some studies found that co-residing with adult children is associated with higher depressive symptom among older parents (Chan, et al., 2011, p. 630; Jeon, et al., 2007, S323) and lower level of happiness for elderly men in China (Chyi and Mao, 2012, p. 167). Elderly women who live alone are likely to feel significantly happier (Matsuura and Ma, 2021, p. 903). Due to independence in later life is highly valued, coresidence with children can be detrimental to the psychological well being of elders. (Teerawichitchainan, Pothsiri and Long, 2015, p. 106) indicated no significant differences in psychological health among elderly across different types of living arrangements for Mynmar.

The co-residence effects differ along with the gender of offspring. Having at least one coresident daughter is positively associated with the level of happiness (Sukontamarn, et al, 2023, p. 1729; Grundy and Murphy, 2018, p. 1), subjective well-being (Zhu, et al., 2019, p. 1) and emotional health (Chen and Short, 2008, p. 1379). (Yuan, Zheng and Hui, 2021, p. 744) found that co-residing with daughters (sons) can significantly raise parental subjective well-being by 7.23% (6.70%). (Zhu, et al., 2019, p. 1) showed that negative well-being fell significantly by 0.63 points if co-residence was with an adult daughter in China.

The primary explanation is that daughters can provide more psychological support, assistance with daily activities and have a lower potential for conflicts compared with sons. In Thailand, psychological wellbeing scores are significantly higher among elderly with coresident daughter than those living with married sons (Teerawichitchainan, Pothsiri and Long, 2015, p. 106). Nervertheless, (Teerawichitchainan, Pothsiri and Long, 2015, p. 106) found that in Vietnam, living with a married son is more beneficial to parents' psychological wellbeing than living with other children.

The characteristics of coresident daughters are associated with the happiness level of older persons. (Sukontamarn, et al., 2023, p. 1735) used three characterisitics: marital status, relationship with the older persons and educational level. They found that marital status of coresident daughter does not affect older persons' happiness level. Living with daughter with whom have a good or very good relationship is positively associated with the level of happiness. Coresident daughters' educational level is positively associated with level of happiness.

Several demographic and socioeconomic characteristics are associated with the level of happiness of older persons. These characteristics are gender, age, marital status, education level, work, income, health and social connection. Older females are happier than older males (Sukontamarn, et al., 2023, p. 1742; Yuan, Zheng and Hui, 2021, p. 739). However, some studies such as (Shah, et al., 2021, p. 1) concluded that being male was significantly associated with happiness compared with being female. The same result was indicated in other studies (Pinquart and Sorenson, 2001, p. 1; Yamada and Teerawichitchainan, 2015, p. 957) even they used subjective well-being instead of happiness. (Pinquart and Sorenson, 2001, p. 1) found that women appear to have slightly worse subjective well-being than men (and higher prevalence of depression). Elderly men report higher psychological well-being than elderly women in Vietnam (Yamada and Teerawichitchainan, 2015, p. 957).

Older age is positively associated with happiness for older people (Grundy and Murphy, 2018, pp. 8-9). However, (Shah, et al., 2021, p. 5) found that individuals of the younger age group (60–74 years) were happier than those in the other two groups (75-84 years and more than 84 years). Relationship between age and happiness is inverted U-shaped. That is, happiness initially increases from the age of 60 to around 68 and then declines afterward (Sukontamarn, et al., 2023, p. 1742). (Netuveli, et al., 2006, p. 361) and (Ploubidis and Grundy, 2009, p. 668) concluded that there is a decline in life satisfaction after age 65 or 70 among older people.

Older persons who are divorced or separated are less happy than those who are married (Sukontamarn, et al., 2023, p. 1742; Yuan, Zheng and Hui, 2021, p. 739). Bai, et al. (2020, p. 1273) found that having a spouse has a positive effect on the life satisfaction of elderly men, but not effect on elderly women in Hong Kong. Frazier, et al. (1996, p. 225) explained that married people, especially men, tended to have more support from their family, and hence have a higher life satisfaction.

Past studies (Chen, 2012, p. 117; Dolan, Peasgood and White, 2008, p. 94) found that higher education increases subjective well-being, life satisfaction and happiness. (Chou and Chi, 1999, p. 328) analyze the determinants of life satisfaction of the elderly Chinese living in Hong Kong. They found that elderly persons with more education report a higher level of life satisfaction.

Work is associated with a higher level of happiness in older persons (Sukontamarn, et al., 2023, p. 1742 ; Shah, et al., 2021, p. 5). Income is positively associated with happiness (Sukontamarn, et al., 2023, p.1742; Yuan, Zheng and Hui, 2021, p. 739). Specifically, the effect of relative income (household income versus the village average) is an important determinant for an individual's subjective happiness. Self-rated health status is also positively associated with happiness (Sukontamarn, et al., 2023, p. 1742; Yuan, Zheng and Hui, 2021, p. 757). Other interesting associations show that social participation is positively correlated with level of happiness. This finding implies that older persons with weak social interaction are inclined to report low level of happiness

(Grundy and Murphy, 2018, pp. 6-8; Yuan, Zheng and Hui, 2021, p. 739; Shah, et al., 2021, pp. 6-7). In terms of the location of residence, the elderly who lived in urban places were happier in their daily life (Shah, et al., 2021, p. 5).

Methodology

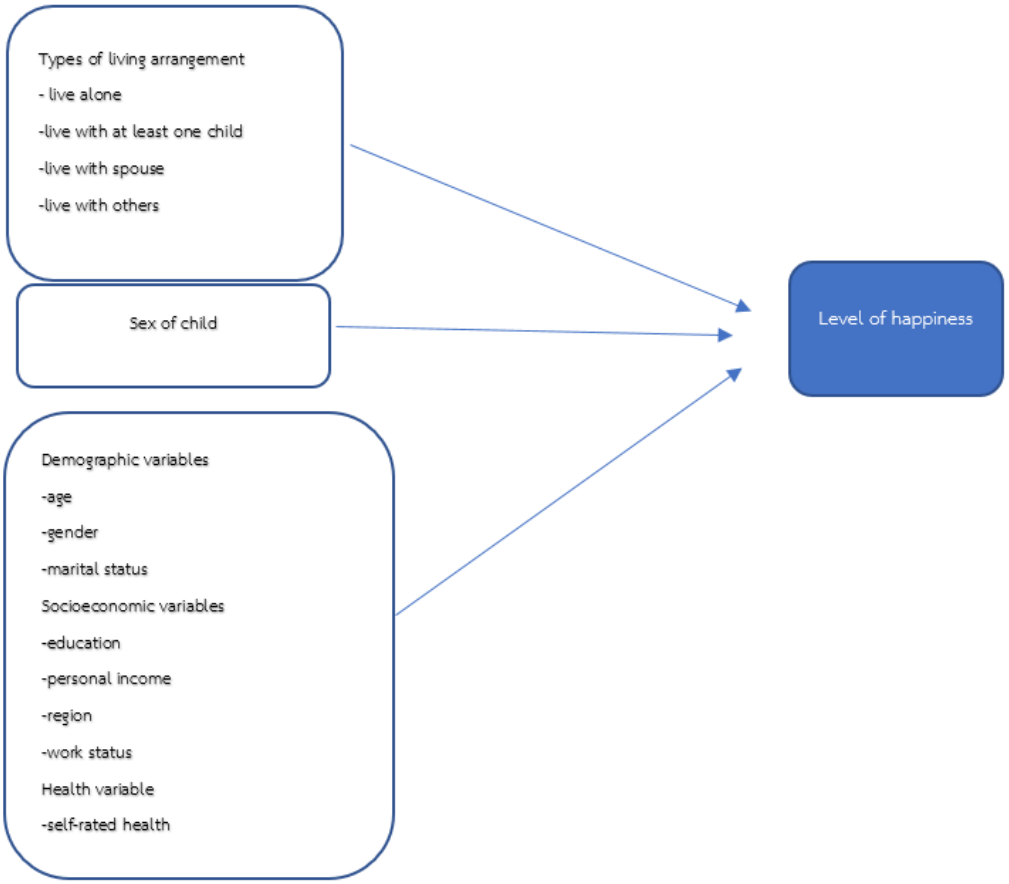

Figure 1 Conceptual framework

Samples

This study utilizes data from the 2021 Survey of the Older Persons in Thailand collected by National Statistics Office (NSO). NSO used a questionnaire on individuals aged 50 and above. In terms of design, it was a stratified two-stage sample survey. Overall, 83880 households from 77 provinces in 5 regions (Bangkok, Northern region, Northeastern region, Central region, and Southern region) were available for interview. Our study focuses on old persons aged 60 and above, resulting in a sample of 44,641 older persons. The study focuses on the happiness level of older persons, and questions were asked only to those who answered the questionnaire by themselves. Furthermore, observations with incomplete information were excluded. The final sample comprised 34,090 older persons.

Measures

Outcome variable

The variable 'happy' was derived from responses to the question "how happy are you in life over the past three months?". It was rated on a 11-point Likert scale, with higher scores indicating greater happiness. Specifi-

cally, 0 point indicated the highest degree of being unhappy and 10 points represented the highest level of happiness. Therefore, individuals with five points or less were considered as unhappy, and those with six points or more were considered as happy. For conducting a binary logistic regression analysis, older adults' happiness was classified into two categories: unhappy (score 0-5) and happy (score 6-10).

Key independent variables

Two primary independent variables exist. The initial variable, pertaining to types of living arrangements, is pivotal in addressing the first objective: exploring the impact of living arrangements on happiness. Therefore, living arrangements were classified into four categories: living alone, living with at least one child (no spouse), living with a spouse and other types of living arrangements such as living with relatives or care worker, etc.

Another key independent variable is the sex of the child, which seeks to elucidate how the gender of a child influences parental happiness. The study classified child gender into three categories: son, daughter and both sons and daughter.

Covariates

There are 3 sets of covariates were included in this study. The first set consisted of demographic variables, including age, gender, marital status. Age is categorized into 3 groups: 60-69 years of age, 70-79 years of age and over 80 years of age. Gender is a dummy variable coded 1 if male and 0 otherwise. Marital status is a categorical variable; coded 1 if single, 2 if married, and 3 if widowed, divorced, or separated.

The second set of covariates included the following socioeconomic variables: educational level, work, personal income and region of residence. Educational levels are categorized by skill level. That is, low skilled educational level includes pre-primary education, primary education and lower secondary education; intermediated skilled educational level includes upper secondary and post-secondary education and high skilled educational level includes university education. Education is coded 1 if low-skilled education; coded 2 if intermediate skilled education and 3 if high skilled education.

Older person in employment or not is another variable. It is a dummy variable coded 1 if older individual in employment and 0 otherwise. Personal income per year is a categorical variable coded as 1 if personal income below 40,000 baht per year; 2 if personal income between 40,000 and 99,999 baht per year; 3 if personal income between 100,000 and 299,999 baht per year and 4 if personal income over 300,000 baht per year. Region of residence is a categorical variable code 1 if Bangkok; 2 if Central; 3 if North; 4 if Northeast and 5 if South.

The third set of covariates included self-rated health. It is assessed using a single question, "In general, would you say your health is very good, good, fair, poor or very poor?" This variable was treated as two level variable by coding poor and very poor as 0, fair, good and very good as 1.

Table 1 The definitions of variables in the study

Variables	Definitions
Happy	Dummy variable taken value of 1 if happy and 0 if not happy
Living arrangement	Categorical variable: 1=live alone, 2=live with at least one child, 3=live with spouse and 4=live with others
Age group	Categorical variable: 1=60-69, 2=70-79 and 3= over 80
Gender	Dummy variable coding 1 = male and 0 = female
Marital status	Categorical variable: 1= single, 2=married and 3=widowed, divorced and separated
Educational level	Categorical variable: 1=low skilled education, 2=intermediate skilled education and 3=high skilled education
Work status	Dummy variable coding 1=work and 0=not work
Health status	Dummy variable coding 1=good health and 0=poor health
Personal income per year	Categorical variable: 1=income between 0-39,999, 2= income between 40,000-99,999, 3=income between 100,000-299,999 and 4=income over 300,000
Region	Categorical variable: 1= Bangkok, 2= Central, 3= North, 4= Northeast and 5= South
Child sex	Categorical variable: 1=live with son, 2= live with daughter and 3= live with son and daughter

Statistical Analysis

The binary logistic regression analysis can be used to determine the relationship between a binary response and continuous or categorial explanatory variables. The binary logistic regression model is given below,

$$log\left[\frac{P(Y)}{1-P(Y)}\right] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots .. + \beta_n X_n + \varepsilon$$

$$\hat{P}(Y) = \frac{e^{\beta_0+\beta_1 X_1+\beta_2 X_2+\cdots \beta_n X_n}}{1 + e^{\beta_0+\beta_1 X_1+\beta_2 X_2+\cdots \beta_n X_n}}$$

Or $$\hat{P}(Y) = \frac{1}{1+e^{-(\beta_0+\beta_1 X_1+\beta_2 X_2+\cdots \beta_n X_n)}}$$

Where $log\left[\frac{P(Y)}{1-P(Y)}\right]$ is the log (odds) of the outcome variable, Y is dichotomous equal to 1 if older persons are happy and 0 otherwise. $\beta_1,\beta_2,\ldots,\beta_n$ are regression coefficients; β_0 is the intercept; $X_1,X_2,\ldots,X_n$ are living arrangement, age group, marital status, educational level, work, health status, income, region and child gender. The steps in the analyses using the binary logistic regression are (1) calculating descriptive statistics, (2) estimating regression parameters using maximum likelihood estimation, (3) determining the final model, and (4) interpreting the regression coefficients and marginal effect.

Results

The study initially fitted ordinal logit models of variations in happiness by coresidence with a son or daughter and other covariates. However, although happiness was measured on 11-point scales (0-10 likert scale), an ordinal logistic model did not meet the proportional odds requirement, and a multinomial model with 11 groups made reported results

unmanageable. In order to make comparisons between areas with different overall levels of happiness, level of happiness was categorized into 2 groups as a binary outcome variable indicating whether or not an individual was in the top half of the well-being distribution within their country of residence; the cut points were chosen at the level that divided the population into two groups as closely as possible to a 50–50 split.

The pairwise correlation coefficients between the independent variables are all well below the threshold of 0.5, indicating that no two variables are highly correlated. The value of log likelihood of -11760.816 resulting in a p-value which is less than the commonly used significance level of 0.05. Therefore, the value of Psudo R-squared is 0.30. Thus, the full model provided valuable information in predicting the outcome variable and the model is well-fitted.

Table 2 presents the summary statistics of the study variables. 86.69 percent of older persons are happy. Specifically, 87.31 (86.25) percent of older male (female) are happy. Approximately 43.92 percent of elderly individuals reside with at least one child. About 31.36 percent of elderly individuals live with their spouse, ranking second in terms of living arrangements. The age group 60-69 years has the highest proportion of elderly individuals. Married individuals account for 78.59 percent of older men while older females have a similar proportion of being married (48.86 percent) and widow, divorced or separated (45.02 percent).

The majority, comprising 86.84 percent, of older individuals possess low-skilled education. Male seniors exhibit nearly equal proportions of employment and non-employment, whereas almost 70 percent of female seniors are not engaged in work. Roughly 90 percent of the elderly enjoy good health. The majority, approximately 45 percent, of elderly individuals have incomes ranging from 0 to 39,999 baht per year, while those with high incomes (over 300,000 baht per year) represent about 5.78 percent. The majority, accounting for 29.07 percent, of elderly individuals reside in the Northeast region, followed by the North with 27.78 percent. 46.2 percent of elderly individuals reside with their daughters, while 43.523 percent live with their sons.

Table 2 The summary statistics of the study variables.

Variables	All (%)	Male (%)	Female (%)
Happy			
-happy	86.69	87.31	86.25
-not happy	13.31	12.69	13.75
Living arrangement			
-living alone	15.20	12.83	16.86
-living with child	43.92	42.91	44.64
-living with spouse	31.36	39.89	25.41

Variables	All (%)	Male (%)	Female (%)
-others	9.51	4.38	13.09
Age group			
-60-69	59.18	59.93	58.65
-70-79	29.50	29.45	29.54
-over 80	11.32	10.62	11.81
Marital status			
-single	4.7	2.67	6.12
-married	61.09	78.59	48.86
-divorced, widowed, seperated	34.21	18.73	45.02
Educational level			
-low skilled education	86.84	83.57	89.13
-intermediate skilled education	5.77	8.12	4.13
-high skilled education	7.39	8.31	6.75
Work			
-work	38.02	48.56	30.67
-not work	61.98	51.44	69.33
Health			
-good health	89.98	91.12	89.18
-poor health	10.02	8.88	10.82
Income			
-0-39,999	45.94	39.24	50.62
-40,000-99,999	33.43	33.88	33.12
-100,000-299,999	14.85	19.42	11.66
-over 300,000	5.78	7.46	4.61
Region			
-Bangkok	3.21	2.77	3.52
-Central	25.94	25.16	26.48
-North	27.78	28.73	27.12
-Northeast	29.07	29.26	28.94
-South	14.0	14.08	13.95
Child sex			
-sons	43.52	43.46	43.57
-daughter	46.20	44.56	47.30
-both son and daughter	10.28	11.99	9.13

Table 3 presents the logistic regression result of living arrangements on older persons' happiness by using maximum likelihood estimation and interpreting the result by using marginal effect. All variables were cleaned and analyzed. Under multicollinearity checks, all variables had a variance influencing factor (VIF) of less than 2.5. Thus, multicollinearity was not a concern.

The study finds that compared with living alone, living with at least one child is positively associated with older persons' happiness. Co-residence with a child can result in a 1.4 percent increase in the probability of older persons to be happy. Living with spouse and living with others are not statistically significant at 5 percent level.

Several demographic and socioeconomic characteristics are associated with happiness of older persons. Older adults' happiness decreased with age. Older persons with the age between 70-79 years have lower probability of being happy than those with aged 60-69 years. This finding aligns with Baumann's research (Baumann, et al., 2020, p. 329), which indicated a slight decline in life satisfaction among older adults as they aged. Male parents are inclined to denote lower happiness than their female counterparts which is consistent with (Sukontamarn et al., 2023, p. 1472). Older persons with intermediate and high skilled education have higher probability to be happy than those with low skilled education.

Health is positively associated with happiness. Lower levels of happiness among those with poorer health. Specifically, older individuals with good health lead to 1.98 percent increase in the probability of being happy than those with poor health. Work is associated with a higher level of happiness. Elderly individuals who are employed exhibit a 0.8 percent greater likelihood of experiencing happiness compared to their unemployed counterparts.

There is positive relationship between income and happiness. Older persons with higher income have higher happiness. That is, older persons with income more than 300,000 baht per year have 0.074 percent increase in elderly's happiness compare to those with income lower than 40,000 baht per year. Older persons in other regions have higher happiness than those in Bangkok. Older persons in the North (South) have 4.5 (7.9) percent higher probability of being happy than those in Bangkok.

Table 3 The result of living arrangement on elderly's happiness.

Variables	Coefficient	Std error	Z	P value	Marginal effect
Living arrangement					
-live alone (reference)					
-live with at least one child	0.136**	0.055	2.48	0.013	0.014
-live with spouse only	0.098	0.068	1.43	0.152	0.010
-live with others	-0.102	0.068	-1.5	0.133	-0.010
Age groups					

Variables	Coefficient	Std error	Z	P value	Marginal effect
-60-69 years (reference)					
-70-79 years	-0.093**	0.040	-2.33	0.02	-0.009
-80 years and over	-0.037	0.056	-0.66	0.508	-0.004
Sex (female as reference)	-0.1**	0.037	-2.67	0.008	-0.010
Marital status					
-single (reference)					
-married	0.00	0.099	0.000	1.000	0.000
-divorced, widow, and seperated	-0.092	0.09	-1.02	0.306	-0.009
Education					
-low skilled education (reference)					
-intermediate skilled education	0.49**	0.095	5.14	0.000	0.050
-high skilled education	0.861**	0.118	7.27	0.000	0.087
Work (not work as reference)	0.08*	0.044	1.83	0.068	0.008
Health (poor health as reference)	1.963**	0.042	47.1	0.000	0.198
Income per year					
-0-39999 baht (reference)					
-40000-99999 baht	0.268**	0.041	6.57	0.000	0.027
-100000-299999 baht	0.499**	0.065	7.65	0.000	0.05
-300000 baht up	0.736**	0.128	5.76	0.000	0.074
Region					
-Bangkok (reference)					
-Central	0.672**	0.097	6.91	0.000	0.068
-North	0.448**	0.097	4.63	0.000	0.045
-Northeast	0.235**	0.096	2.45	0.014	0.024
-South	0.78**	0.104	7.5	0.000	0.079
Constant	-0.436**	0.131	-3.33	0.001	

** and * denote significant at the 5 and 10% level respectively

Table 4 The result of child gender on older persons' happiness

Variables	Coefficient	Std error	Z	P value	Marginal effect
Child gender					
-live with son (reference)					
-live with daughter	0.123**	0.054	2.27	0.023	0.012
-live with son and daughter	0.086	0.092	0.94	0.347	0.009

Variables	Coefficient	Std error	Z	P value	Marginal effect
Age groups					
-60-69 years (reference)					
-70-79 years	-0.089	0.062	-1.44	0.149	-0.009
-80 years and over	-0.096	0.083	-1.17	0.244	-0.010
Sex (female as reference)	-0.077	0.057	-1.34	0.182	-0.008
Marital status					
-single (reference)					
-married	1.371**	0.566	2.42	0.015	0.138
-divorced, widow, seperated	1.321**	0.566	2.33	0.02	0.133
Education					
-low skilled education (reference)	0.358**	0.148	2.41	0.016	0.036
-intermediate skilled education	0.775**	0.201	3.86	0.000	0.078
-high skilled education					
Work (not work as reference)	-0.001	0.068	-0.01	0.992	0.000
Health (poor health as reference)	1.981**	0.061	32.41	0.000	0.20
Income per year					
-0-39999 baht (reference)					
-40000-99999 baht	0.179**	0.062	2.86	0.004	0.018
-100000-299999 baht	0.523**	0.10	5.23	0.000	0.053
-300000 baht up	0.777**	0.193	4.03	0.000	0.078
Region					
-Bangkok (reference)					
-Central	0.742**	0.142	5.21	0.000	0.075
-North	0.457**	0.142	3.21	0.001	0.046
-Northeast	0.263*	0.140	1.88	0.060	0.027
-South	0.753**	0.150	5.03	0.000	0.076
Constant	-1.741**	0.583	-2.98	0.003	

** and * denote significant at the 5 and 10% level respectively

Table 4 present the result of the relationship between elderly's happiness and co-residence with child focused on child gender. Living with daughter is positively associated with the happiness of older persons, compared to living with son. Older persons' happiness increases 1.2 percent if they live with their daughter. (Sukontamarn, et al., 2023, p. 1742) indicated that living with daughter is associated with happiness through four channels: (i) an improvement in self-rated health, (ii) a reduction in loneliness, (iii) a re-

duction in emotional ill-being or worry, and (iv) improvement in economic conditions in terms of income sufficiency.

Marital status is an important feature affecting happiness. Higher happiness was found among married older adults. Failed marriage also showed having a positive consequence on happiness as the divorced, widowed, and seperated have significantly higher happiness. That is, divorced, widow, or separated elders have 1.33 percent higher probability of having happiness than singles.

High-skilled (intermediate) educated elders have 7.8 (3.6) percent higher probability of having happiness compared to elders with low skilled education. Highly educated older adults scored higher happiness, suggesting that educational level had an impact on happiness. The study found that self-rated health status is associated with happiness in old people. Healthier elderly have higher level of happiness. Older persons with good health have 20 percent higher probability of having happiness than those with poor health. There is difference in older persons' happiness among different income groups. Older persons with income 300,000 over have 7.8 percent higher probability of being happy than those with income less than 40,000. Older persons living in Bangkok have lower happiness than those living in other regions.

Conclusion

According to the research objectives, the results reveal a positive relationship between co-residence with at least one child and elders' happiness, which is consistent with the majority of existing literature in the Asian context (Sukontamarn, et al., 2023, pp. 1743-1745; Grundy and Murphy, 2018, p. 6). Compared with living alone, living with a least one child is positively and significantly associated with older persons' happiness. However, among the subsample, living with at least one daughter is positively associated with happiness in old ages; living with both sons and daughter does not show a significant association with older persons' happiness.

Limitations

The data used in this study were collected using a self-report questionnaire. Thus, the possibility of response bias cannot be eliminated. Therefore, all the secondary data collected were cross-sectional, making it difficult to make causal inferences. There is a need for longitudinal studies that consider participants' characteristics.

Policy Recommendation

The present findings suggest that the family is an essential support system for older adults. It was identified that factors associated with older adults' happiness differed according to their living arrangements. Policymakers should recognize role of family in promoting the happiness of older adults. For example, the government can implement tax deductions for the working population to encourage intergenerational co-residence. Additionally, the government can give subsidies for disadvantaged elders and household with financial constraints to alleviate the burden of old-age support providers.

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