



Psychological Functioning and Living Arrangements among Older Thai People

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Abstract

In the next two decades, one in three people in Thailand will be older adults aged 60 or over. Industrialization and socioeconomic development have encouraged the migration of young adults from rural to urban areas which has transformed the living arrangements of some older adults. Using culturally sensitive measures, this study investigates the association between living arrangements and psychological functioning net of personal and contextual factors. Data are from a survey of 638 Thai people aged 60 and over conducted in 2012. Results from multiple regression analyses indicate that personal and contextual factors are differentially associated with either psychological wellbeing or depressive symptoms. In contrast, living arrangements are associated with both outcomes. These results suggest that older persons in skipped-generation households (two-generation households consisting of grandparents and grandchildren) are more likely to have lower psychological wellbeing than those who live in multi- and one generational households (with no children living within walking distance), and have higher depressive symptoms than those who live only with their children. Findings indicate that tailored services and policies are needed for older adults in varied living arrangements, particularly those in skipped-generation households.

Keywords Living arrangements · Older persons · Psychological wellbeing · Depressive symptoms · Skipped-generation households · Thailand

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Introduction

Ageing has become a global phenomenon making it increasingly important that we understand the key ingredients to ageing well. Doing so will enable gerontological practitioners and policy makers to develop ways of enhancing psychological wellbeing during old age. Migration of working-age adults to find better economic opportunities has had a significant impact on the living arrangements of their aging parents. It is important to understand how different kinds of living arrangements affect the psychological functioning of older people. To date, much of the research on psychological functioning has used measures developed in a Western context. Such measures may not be applicable to older adults in non-Western areas such as Asia. This paper attempts to address this gap by examining factors that contribute to ageing well in Thailand using measures of psychological functioning that are culturally sensitive.

Ageing in Thailand

In Thailand the number of adults aged 60 and over was 11.3 million in 2017 (National Statistical Office (NSO) 2018). In the next two decades, this number is expected to almost double, and by 2040, one in every three Thai people will be 60 or over (The National Economic and Social Development Board (NESDB) 2013). Population ageing in Thailand has occurred much faster than other Asian countries, although Japan experienced an aging society before Thailand (Prasartkul 2013).

For the past three decades, Thailand has been going through a period of rapid industrialization and socioeconomic development; these changes have encouraged working-age adults to migrate from rural to urban areas for improved economic opportunities (Guest et al. 1994). This migration has been partially responsible for changes in the living arrangements of the migrants' older parents, often left-behind in rural areas (United Nations Population Fund (UNFPA) 2015). Some older parents live with their spouses or live alone if all their children have migrated. Others may live in skipped-generation households in which grandparents are living with their grandchildren (i.e., the children of the migrants). Although older parents living with adult children and grandchildren in multi-generational households remains the norm in Thailand, the number of skipped-generation households has been increasing. In 1987 there were 107,494 skipped-generation households; by 2013, that number had increased to 405,615. The vast majority of these skipped-generation households are located in rural areas, and more than half are headed by older persons aged 60 and above (UNFPA 2015).

In Thailand, a country with increasing numbers of older persons undergoing socio-economic transitions, it is critical to understand their psychological functioning as they experience different kinds of living arrangements. This paper investigates the extent to which older persons' living arrangements are related to their psychological wellbeing and depressive symptoms over and above personal characteristics and contextual factors.

Conceptual Framework

Our conceptual framework includes the associations among personal characteristics, contextual factors, living arrangements, and psychological functioning. The personal

characteristics consist of the older persons’ demographics, socio-economic background and health. The contextual factors are comprised of the social supports given to and/or received from their children/grandchildren, social connectedness, the amount of household remittances, and the level of household wealth. The living arrangements of these older adults are classified into three general types: multi-generational, two-generational and one-generational. Psychological functioning includes both a positive domain (i.e., psychological wellbeing) and a negative domain (i.e., depressive symptoms). In our analyses, we control for psychological wellbeing when we examine depressive symptoms and for depressive symptoms when we examine psychological wellbeing. See Fig. 1 for a graphic representation of these relationships.

Literature Review

In this section, we highlight findings from research that examines each of these constructs within the context of Thailand.

Personal Characteristics

Several personal characteristics are salient for older Thai people. They include: age, gender, marital status, education, working status, difficulties due to chronic diseases, and self-rated health. Different directions of association between psychological functioning have been found: females are more likely than males to have greater depressive symptoms and lower psychological wellbeing (Subprawong 2012; Suttajit et al. 2010). Further, older Thai people who are unmarried (including widowed, divorced, separated and never married) are more likely to be depressed than those who are currently

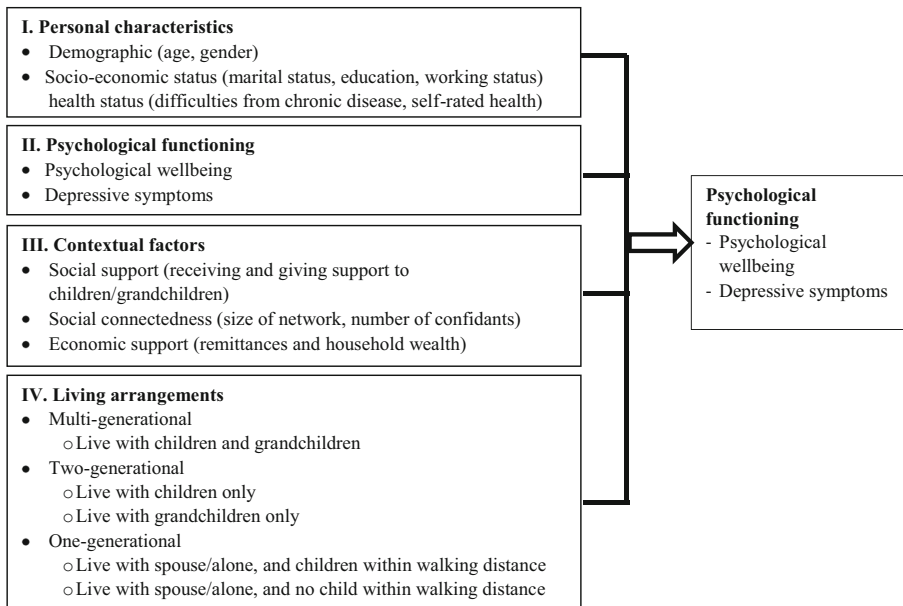


Fig. 1 Conceptual Framework

married (Suttajit et al. 2010). A possible explanation is that those who are currently married have a spouse who can provide companionship and support, while the unmarried do not experience this companionship and support (Subprawong 2012). In another study, those who were never married had the highest psychological wellbeing scores compared with the currently and ever-married older persons (Muijeen 2015).

Findings from studies on the relationship between education and psychological functioning are straight forward. One study indicated that education had a negative association with depressive symptoms (Suttajit et al. 2010); and a positive association with subjective wellbeing. Education not only increases knowledge about coping with depressive symptoms, but can also be a protection against depressive symptoms (Subprawong 2012).

When comparing older people who work with those who do not, studies have shown that working is associated with better psychological wellbeing (Abas et al. 2009b) and lower depressive symptoms (Suttajit et al. 2010). Working appears to be associated with increased income and being in relatively good physical health (Gray et al. 2008; Muijeen 2015).

Research on the health of older adults in Thailand has examined both their perceived health and their chronic health problems. Studies that examined the relationship between physical health and psychological functioning showed that older persons who perceived themselves as in good physical health had lower depressive symptoms (Atthamaethakul and Srivilai 2013).

Contextual Factors

Salient contextual factors for older Thai people include their satisfaction with social support, social connectedness, the extent of remittances, they receive from those who are not in the household and household wealth. Social support has been shown to be significantly related to higher psychological wellbeing and lower depressive symptoms (Abas et al. 2009b; Kaewpijit et al. 2018; Suttajit et al. 2010), moreover, social support has a negative association with depressive symptoms among grandmothers who are primary caregivers of their infant grandchildren (Klayklung et al. 2018). Social connectedness measured by size of networks and number of confidants has positive linkages to psychological wellbeing among Thai older adults (Thanakwang 2015; Thanakwang et al. 2012). Though there has been minimal research on the relationship between remittances and psychological functioning, one study found a negative relationship between remittances and depressive symptoms (Abas et al. 2009b). Household wealth has been found to have a negative relationship with depressive symptoms (Abas et al. 2013; Gray et al. 2008), and a positive relationship with psychological wellbeing (Abas et al. 2009b).

Living Arrangements

Research findings on the relationship between living with adult children and psychological functioning in Thailand are inconsistent. One cross-sectional study found that older Thai people who lived with their children had higher psychological wellbeing than those who lived with others (Teerawichitchainan et al. 2015). However, a longitudinal study found that older persons who did not live with their children were at lower

risk of depressive symptoms than those who did; their risk of depressive symptoms increased if their migrant child returned to live with them (Abas et al. 2013). A possible explanation for this positive relationship between living with children and depressive symptoms is that when a migrant returns home it is often due to job loss, a dissolved marriage, or the parents' poor health (Piotrowski and Tong 2010; Zimmer and Knodel 2010), all of which can be a source of distress for older people. In addition, adjusting to living with a returned migrant child can be a source of distress for older people (Abas et al. 2013).

Research on skipped-generation households (i.e., grandparents living with grandchildren) suggests that such living arrangements may also impact the psychological functioning of older adults. Based on in-depth interviews with older adults in skipped-generation households, there is evidence that these older adults have both positive and negative feelings associated with this kind of living arrangement. On the one hand, they need the remittances from their migrant children to make ends meet, and they enjoy the companionship of their grandchildren (Ingersoll-Dayton et al. 2017, 2018a, 2018b). On the other hand, older adults in skipped-generation households may experience conflict with their migrant child as to how to raise and discipline the grandchildren, the grandchildren's education and the sending of remittances (Tangchonlatip et al. 2019).

Psychological Functioning

There are many ways to assess how well individuals are functioning psychologically that include different aspects of functioning. Psychological wellbeing is a positive aspect of psychological functioning that emphasizes "the person's competence and quality of life in all domains of contemporary life" (Lawton 1991: 11). Depression is a negative aspect of psychological functioning that focuses on distressed mood, including feelings of sadness and emptiness (American Psychiatric Association 2013). It is important to examine both positive and negative aspects of psychological functioning because different factors can influence them (Ingersoll-Dayton et al. 1997; Ruehlman and Wolchik 1988). For example, pioneering research in this area found that social support influenced positive aspects of psychological functioning, such as wellbeing and perceived quality of life, but did not influence negative aspects of psychological functioning, such as psychological distress (Finch et al. 1989; Ruehlman and Wolchik 1988).

Previous research in Thailand has measured both positive and negative aspects of psychological functioning of older adults (Abas et al. 2009a, 2009b; Ingersoll-Dayton et al. 2004; Suttajit et al. 2010; Thanakwang et al. 2012;). Some studies suggest that older people are more likely to be depressed (Abas et al. 2013; Suttajit et al. 2010), while others find they experience higher psychological wellbeing (Abas et al. 2009b). However, each of these studies used measures focusing on only one aspect of psychological functioning, either positive or negative. This study will address this limitation by using both positive and negative measures of psychological functioning. In so doing, we will gain a more comprehensive view of the factors that contribute to psychological functioning among Thai older adults.

Data and Method

Sample

This study is based upon data from a research project, ‘Demography, socio-economic, cultural, surveillance and long term care for the wellbeing of Thai elderly’. The study was conducted in Kanchanaburi, a province in the western part of Thailand, as part of the Kanchanaburi demographic surveillance system (KDSS). The KDSS collected every household members’ basic information in 87 villages and 13 urban census blocks. The data used in the present study were collected in 2012 from 638 households. Eligible interviewees were selected based on two criteria: 1) The household had a person aged 60 years or above and 2) That person had at least one living child who lived in the same household or in the same district. If a household had more than one eligible older person, a simple random selection method was employed to choose one older adult to be interviewed. The resulting sample was a non-probability sample, and therefore not representative of either Kanchanaburi or Thailand. However, when we compared the demographic characteristics of our Kanchanaburi sample with that of a nationally representative sample of older Thai persons (NSO, 2011), we found that the demographic characteristics were very similar in relation to age, sex, and marital status of the older persons.

Data Quality

The questionnaire was developed based on input from focus group discussions that explored the experiences of the rural aged, perceptions of health and wellbeing, and exchanges with family members and others. The questionnaire was pre-tested by a team of ten experienced interviewers on three separate occasions before finalization. The final version was back-translated to English and checked for consistency by a bilingual psychiatrist and several social scientists.

Because the survey was conducted as part of the KDSS, research teams frequently made repeated visits. Therefore, the residents, the village headmen, and government officials were generally familiar with the interviewer teams. Interviewer training occurred over a one-week period and covered a variety of topics, including knowledge about research, research ethics, objectives of the research project, definition of important terms (e.g., older person, depressive symptoms and psychological wellbeing), objectives of each question and the meanings of the response sets, and interviewing techniques. In addition, the interviewers practiced asking and answering the questions both in the office with their peers, and in the field with older persons. Interviewers gave feedback for improving the questionnaire and the data collection process.

The interviewing team visited each selected household and randomly selected an eligible older person. If the older adult and household head gave consent, the interviewer first interviewed the household head or other family members who knew the household information well with the household questionnaire and then the older person with the individual questionnaire. Recall bias was minimized because interviewers showed the interviewees their household history (i.e., demographic and socio-economic information on each family member) previously collected in the KDSS area.

During the fieldwork, the field supervisor and interviewers checked for completeness and consistency of the questionnaires. If there were incomplete or inconsistent responses, interviewers could return to the eligible respondents to address these issues. In the office, the data were coded, entered and edited under the supervision of a professional KDSS data manager. The project was approved by Mahidol University, the Committee for Research Ethics (Social Science): COA.No. 2012/063.0903).

Psychological Functioning

In this study, psychological functioning is assessed by two measures: psychological wellbeing and depressive symptoms. These two measures were selected because they assess the positive and negative aspects of psychological functioning and they are culturally sensitive. The psychological wellbeing measure was constructed and validated within the context of Thailand based on in-depth interviews, focus group discussions, cognitive interviews and two surveys with older persons (Ingersoll-Dayton et al. 2001, 2004). The depressive symptoms measure was adapted from a measure originally developed in the West. It was adapted for Thailand through a rigorous process that involved alterations of the measure based on focus group discussions, pretesting with Thai older people in the study area (Abas et al. 2009a, 2009b, 2013), and validation with outpatients of a psychiatric clinic in a well-known mental health hospital in outskirts of Bangkok (Jirapramukpitak et al. 2009).

Psychological Wellbeing

Researchers in Thailand often use measurements developed in Western countries by using professional translation followed by back-translation. However, this method may not result in reliable and valid tools within non-western contexts (Ingersoll-Dayton et al. 2004; Ingersoll-Dayton 2011).

In the present study, each participant completed a measure of psychological wellbeing (PWB) that addressed five dimensions of wellbeing identified by previous research in Thailand (Ingersoll-Dayton et al. 2004). For more details about the development and validation of this measure, see an Appendix. The items related to the five domains are: harmony (“family members get along well together”; “family members care about each other”; and “neighbors are friendly to each other”); interdependence (“family members can depend on each other for help”; “family members take care of you”; and “neighbors depend on each other”); acceptance (“you are a relaxed person and are not easily worried”; “when you have small problems, you can let go of your worries”; and “when something bad happens to you, you can accept it”); respect (“younger family members or other young people obey you”; “younger family members or other young people talk and behave politely toward you”; and “younger family members or other young people treat you with respect”); and enjoyment (“you have a good sense of humor”; “you laugh easily”; and you have good times with other people”). The resulting scores ranged from 7 to 45 (mean = 35.6, SD = 7.495) and Cronbach’s alpha = 0.906.

Depressive Symptoms

The EURO-D, a screening tool for depressive symptoms among older adults, was developed by the World Health Organization in 14 European countries and has been validated in low income and middle income countries in other regions of the world (Castro-Costa et al. 2007; Prince et al. 2004). The items in the Thai version of EURO-D were tailored to make them sensitive to the context of older Thai people. The resulting measure has subsequently been used in Thailand with acceptable reliability and is moderately valid for the diagnosis of major depressive symptoms among patients at a Thai psychiatric clinic (Jirapramukpitak et al. 2009). For more details about the modification and validation of this measure, see an Appendix.

In this study, the Thai version of the EURO-D was a composite of 12 items (the older person's depression, pessimism, suicidality, guilt, sleep, interest, irritability, appetite, fatigue, concentration, enjoyment and tearfulness) with scores ranging from 0 to 11 (mean = 2.5, SD = 2.440) and Cronbach's alpha = 0.751.

Independent Variables

Personal Characteristics

Respondents' ages were calculated from their birthdates. They self-identified their gender (0 = male and 1 = female) and reported their current marital status (0 = single/divorce/separated, 1 = currently married and 2 = widowed). The education variable was derived from the number of years respondents were enrolled in the formal education system and grouped into: 0 = no education; 1 = primary level and 2 = secondary and higher level. Employment was defined as work that generated income for the respondent and/or the family resulting in a work status variable that was: 0 = not currently working (including housewife) and 1 = currently working.

Health was assessed in two ways. The first measure was difficulty from chronic diseases that was based on two questions: 1) "Have you ever had the following chronic diseases: dementia, diabetes, heart disease, hypertension, cholesterol, stroke and paralysis?" and 2) "Did such a disease cause any difficulty (difficulties in daily routine), and to what level?" Responses to these two questions were combined into: 0 = no (difficulty or never had such a chronic disease), and 1 = yes (have difficulties from such a chronic disease). The second measure was self-rated health for which respondents were asked "During the last month (before the data collection date), what is the level of your health status when compared with those in your same age group?" The responses to this question were collapsed into 0 = very bad/bad or moderate, and 1 = good or very good.

Contextual Factors

Receiving or giving support are measured in terms of monetary and/or non-monetary aid (including assistance in meal preparation, household work, watch over the house, family business, help in child care, elderly or disabled care) from and for their children or grandchildren. The respondents were asked whether they received from their children/grandchildren or gave to their children/grandchildren any of these supports.

Answers to these questions resulted in one score for giving support and one score for receiving support (0 = no, and 1 = yes).

Social connectedness was assessed in relation to network size and number of confidants. The size of network was measured by a question that asked about the number of children/grandchildren and relatives with whom the respondent was regularly in contact (i.e., met or talked with them at least once in a month, including those who lived in the same household); and number of confidants was measured by a question that asked about the number of children/grandchildren/relatives /friends/or neighbors in whom the older persons felt they could confide. Household remittances were assessed based on a question: "During the last 2 years until the present, did your household receive support both monetary and/or non-monetary from household members who are living elsewhere?" Respondents who answered affirmatively were asked to report the amount of remittances their household received each year.

Household wealth was calculated from questions asking about the availability of several durable household goods (video/VCD/DVD, satellite dish, stereo, computer, electricity generator/water pump, air conditioner, washing machine, microwave, bicycle, motorcycle, car, and pick-up truck) (0 = no, 1 = yes) as well as household conditions: sources of water in the household (1 = pipe water, 0 = others); toilet located in the house (1 = yes, 0 = no), and the materials from which the house was built (1 = concrete, 0 = others). Principal Component Analysis (PCA) was employed to calculate the relative household wealth index (Lever et al. 2017).

Living Arrangements

In this study, living arrangements are classified as multi-generational, two-generational and one-generational. Households with three or more generations that consist of older persons and their children, grandchildren, great grandchildren or others (including in-law, step or adopted children, relatives or non-relatives) are defined as multi-generational households. This form of household in which older adults co-reside with their children and/or grandchildren is traditional in Thailand although on the decline (Siriboon and Knodel 1994; Knodel and Chayovan 1997).

A two-generational household can be either older persons living with children only (i.e., their married or unmarried children including in-laws, and step or adopted children) or living with grandchildren only (i.e., skipped-generation household). This paper focuses on skipped-generation households because they have become increasingly prevalent in Thailand. There are currently more than four hundred thousand skipped-generation households with a growth rate of about 11% annually from 1987 to 2013 (UNFPA 2015). Skipped-generation households largely occur when adults migrate from rural to urban areas to improve their socioeconomic conditions and leave their children behind. There are a variety of factors that make it difficult to bring their children to urban areas including that when both members of the couple migrate for employment, they are unable to care for their children. In addition, child care services in Thailand are often unaffordable and/or the quality of services is poor. These factors often influence migrants to leave their children behind in the care of their older parents (Richter 1997; Piotrowski 2009).

The third category, one-generation households, consist of older adults who live with a spouse or alone. These one-generational households are comprised of two types:

those with a child living close by and those with no child living close by. This study measures “close by” by asking whether an older person has a child (ren) living within “walking distance”. In so doing, we capture the extent to which adult children are considered to be proximal; that is, close enough so that older persons think that they have easy accessibility to their child (ren). This concept is consistent with the findings of Knodel and Chayovan (1997) who reported that older Thai parents are likely to have households that are close to their children. In the Thai agricultural tradition, parents encourage married children to build their house on the parents’ land, which is often close to their parents’ home (Knodel and Saengtienchai 1999; Verdery et al. 2012). This pattern of living arrangement maintains support among the family members and provides the older parents’ some degree of independent living (Zimmer and Korinek 2008). Much of the literature on living arrangements in Thailand focuses only on whether or not older people live with their children in a household (Zimmer and Korinek 2008). In this study, we add to the literature on living arrangements by distinguishing between those older adults who have children living close by vs. at a distance.

Data Analysis Strategy

This study aims to investigate the extent to which personal characteristics, contextual factors and living arrangements are associated with psychological functioning. Each set of independent variables is integrated into an additive model of multiple regression analyses to examine the degree to which these variables explain variations in the dependent variables (Friedman and Stuetzle 1981). Standardized coefficients indicate the net effect of each independent variable on the dependent variable. There are four regression models for each measure of psychological functioning (i.e., psychological wellbeing and depressive symptoms). The first model includes personal characteristics. The second model adds one of the domains of psychological functioning (psychological wellbeing or depressive symptoms). The third model adds contextual factors. The fourth model, which is the primary focus of these analyses, examines the previous factors and adds living arrangements. Because we are particularly interested in the psychological functioning of older adults in skipped-generation households, respondents in this living arrangement category were used as the reference category to compare their psychological functioning with respondents in the other living arrangement categories.

Sample Characteristics

With respect to personal characteristics, the mean age of older persons in this sample is 73.4 years, with a range of 65 to 93 years old. There are more females than males, and more than half are currently married. About two in three have a primary level of education; one in three are currently working; one in three report they have difficulties related to chronic disease, and three in five rate their health as good or very good (see Table 1).

Table 1 Percentage distribution and number of older persons by personal characteristics, psychological functioning, contextual factors and living arrangement ($N = 638$)

Independent variable	Number	Percent
<i>I. Personal characteristics</i>		
Age: mean = 73.4; minimum = 65; maximum = 93; SD = 5.951		
Gender		
- Male	274	42.9
- Female	364	57.1
Marital status		
- Single/divorced/separated	27	4.3
- Currently married	329	51.9
- Widowed	277	43.8
Education		
- No education	156	24.5
- Primary education	432	67.7
- Secondary education or higher	50	7.8
Working status		
- Not working	402	63.0
- Currently working	236	37.0
Difficulties from chronic disease		
- No	423	66.9
- Yes	209	33.1
Self-rated health		
- Very bad/bad or moderate	256	40.5
- Good/very good	376	59.5
<i>II. Psychological functioning</i>		
- Psychological wellbeing: mean = 35.6; minimum = 7; maximum = 45; SD = 7.495		
- Depressive symptoms: mean = 2.5; minimum = 0; maximum = 11; SD = 2.440		
<i>III. Contextual factors</i>		
Receiving support		
- No	152	24.1
- Yes	480	75.9
Giving support		
- No	60	9.5
- Yes	571	90.5
Social connectedness		
- Size of networks: mean = 5.2; minimum = 0; maximum = 26; SD = 3.636		
- Number of confidants: mean = 3.2; minimum = 0; maximum = 10; SD = 2.681		
Economic support		
- Remittances (Baht): mean = 21,874.3; minimum = 0; maximum = 480,000; SD = 40,096.431		
- Household wealth index (Z-score): minimum = -1.684; maximum = 3.312		
<i>IV. Living arrangements</i>		
- Live with children and grandchildren	271	42.5
- Live with children only	113	17.7
- Live with grandchildren only	71	11.1
- Live with spouse/alone, and children within walking distance	92	14.4
- Live with spouse/alone, and no children within walking distance	91	14.3

Number of cases for some variables did not sum up to 638 because they are missing values, that the respondents did not answer such question.

With respect to psychological functioning, psychological wellbeing scores ranged from 7 to 45, with an average of 35.6, while the depressive symptom scores ranged from 0 to 11, with an average score of 2.5. For the contextual factors, approximately three in four receive support from their children and/or grandchildren, and nine in ten give support to their children/or grandchildren. The average size of networks is 5.2, with a range of 0 to 26; the number of confidants had a range from 0 to 10, and average of 3.2. The respondents reported that their household received monetary remittances averaging 21,874.3 Baht/year (approximately US\$716.0),¹ with a range from none to 480,000 Baht/year (approximately US\$15,710.8).

In this sample, about two in five older persons (42.5%) live in multi-generational households, while 28.8% live in two-generation households, (i.e., where 17.7% of the older persons live with children only, and 11.1% live with grandchildren only), and 28.7% of the older persons are in a one-generation households with/or without children living within walking distance (see Table 1).

Findings

This section presents results from two sets of multiple regression analyses: psychological wellbeing and depressive symptoms.

Psychological Wellbeing

Table 2 presents the findings of the regression models with psychological wellbeing as the dependent measure. Model 1, which incorporates only the personal characteristics of the older person, reveals that marital status, education and self-rated health of the older person are associated with psychological wellbeing. Older persons who are currently married or widowed have better psychological wellbeing than those who are single, divorced or separated, while those with secondary or higher education have higher psychological wellbeing than those with no formal education. Older persons who perceive their health as good or very good are more likely to have better psychological wellbeing than those with low or moderate self-rated health.

In Model 2, the depressive symptoms are added. The results show a statistically significant negative association with psychological wellbeing. The other personal characteristics from Model 1 maintain their significant relationship with psychological wellbeing.

The contextual factors are added in Model 3. In this model, the effects of currently married and education on level of psychological wellbeing disappears. This change can be explained by the influence of the contextual factors on the older person's marital status and education. That is psychological wellbeing has a stronger association with household wealth than the marital status and education variables (data not shown). The older persons who report they receive support (in kind and/or in cash) have better psychological wellbeing than those without any support from their children or grandchildren. Further, older persons living in wealthy households have higher psychological wellbeing than those living in households that are poorer.

¹ 1 Thai Baht = 0.033 US\$ (Currency rate on January 25, 2020)

Table 2 Standardized coefficients ordinary least square regression estimates for psychological wellbeing (N = 596)

Independent variable	Model 1	Model 2	Model 3	Model4
<i>I. Personal characteristics</i>				
Age	-0.045	-0.015	0.023	0.018
Gender				
- Male ^{a)}	-	-	-	-
- Female	-0.045	0.001	-0.025	-0.014
Marital status				
- Single/divorced/separated ^{a)}	-	-	-	-
- Currently married	0.228*	0.226*	0.161	0.184
- Widowed	0.317**	0.316**	0.265**	0.287**
Education				
- No education ^{a)}	-	-	-	-
- Primary education	0.080	0.068	0.046	0.048
- Secondary education or higher	0.126**	0.096*	0.056	0.048
Working status				
- Not working ^{a)}	-	-	-	-
- Currently working	-0.024	-0.044	-0.006	0.002
Difficulties from chronic disease				
- No ^{a)}	-	-	-	-
- Yes	-0.041	-0.004	-0.015	-0.014
Self-rated health				
- Very bad/bad or moderate ^{a)}	-	-	-	-
- Good/very good	0.200***	0.168***	0.149***	0.149***
<i>II. Psychological functioning</i>				
Depressive symptoms	-	-0.273***	-0.256***	-0.249***
<i>III. Contextual factors</i>				
Receiving support				
- No ^{a)}	-	-	-	-
- Yes	-	-	0.085*	0.088*
Giving support				
- No ^{a)}	-	-	-	-
- Yes	-	-	0.062	0.075
Social connectedness				
Size of networks	-	-	0.038	0.034
Number of confidants	-	-	0.065	0.065
Economic support				
- Remittances	-	-	0.065	0.093*
- Household wealth index	-	-	0.126**	0.113**
<i>IV. Living arrangements</i>				
- Live with grandchildren only ^{a)}	-	-	-	-
- Live with children and grandchildren	-	-	-	0.174**
- Live with children only	-	-	-	0.096
- Live with spouse/alone, and children within walking distance	-	-	-	0.080
- Live with spouse/alone, and no children within walking distance	-	-	-	0.144**
Adjusted R Square	0.064	0.128	0.165	0.173
Significant F change	5.543***	9.720***	8.387***	7.220***

^{a)} Reference category; Significance level: * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Results in Model 4 provide evidence for the unique importance of living arrangements over and above personal, depressive symptoms, and contextual factors. They reveal that varying types of living arrangements are differentially associated with psychological wellbeing. In comparison to those living only with grandchildren (i.e., the skipped-generation households), older persons who live in multi-generational households, or live in one-generation households without children living within walking distance have higher psychological wellbeing. However, there is no statistically significant difference in psychological wellbeing when comparing older adults living in skipped generation households with those living with children and those living in one-generation households with children living within walking distance.

When examining all the coefficients in Model 4, some interesting relationships emerge. With respect to personal characteristics, marital status and self-rated health have a significant relationship with psychological wellbeing. In addition, depressive symptoms also maintain a robust negative relationship with psychological wellbeing. In relation to contextual factors, receiving support, amount of remittances, and household wealth are strongly related to psychological wellbeing. Interestingly, the significant positive relationship between remittances and psychological wellbeing only emerges after controlling for living arrangements. This newly emerged relationship may be explained by the fact that household wealth has a statistically significant positive association with remittances and also with living arrangements. That is, older persons in wealthy households are more likely to receive more remittances than those in less wealthy households in every type of living arrangement, except for one-generation households in which older parents live with spouse/alone and no children are within walking distance (data not shown).

Taken together the personal characteristics, depressive symptoms, contextual factors and living arrangements explain more variation in psychological wellbeing than do the personal characteristics alone or in combination with depressive symptoms and contextual factors (The adjusted R^2 increases from 6.4 to 12.8 to 16.5 and to 17.3% in models 1, 2, 3 and 4, respectively). There is a statistically significant F-change in each model, which indicates that each set of the independent variables has a linear relationship with the level of psychological wellbeing.

Depressive Symptoms

Table 3 presents the findings of the regression models in which the depressive symptoms score is the dependent measure. Model 1, which includes only personal characteristics, reveals that age, gender, education, difficulties from chronic diseases and self-rated health are statistically associated with depressive symptoms. Depressive symptoms increase with age for the older respondents; females have more depressive symptoms than males; and older persons with secondary or higher education have fewer depressive symptoms than those with no formal education. Further, those who have difficulties with chronic diseases have greater depressive symptoms than those who have no difficulty with chronic diseases, and those who perceive their health status as good or very good have fewer depressive symptoms than those with lower levels of self-rated health.

When psychological wellbeing was added in Model 2, the effects of older persons' personal characteristics on depressive symptoms remained the same, except for

Table 3 Standardized coefficients ordinary least square regression estimates for depressive symptoms (N = 596)

Independent variable	Model 1	Model 2	Model 3	Model 4
<i>I. Personal Characteristics</i>				
Age	0.109*	0.098*	0.089*	0.092*
Gender				
- Male ^{a)}	–	–	–	–
- Female	0.167***	0.156***	0.161***	0.170***
Marital status				
- Single/divorced/separated ^{a)}	–	–	–	–
- Currently married	–0.007	0.051	0.065	0.081
- Widowed	–0.003	0.077	0.083	0.106
Education				
- No education ^{a)}	–	–	–	–
- Primary education	–0.042	–0.021	–0.012	–0.014
- Secondary education or higher	–0.110*	–0.078	–0.048	–0.058
Working status				
- Not working ^{a)}	–	–	–	–
- Currently working	–0.073	–0.079	–0.082	–0.098*
Difficulties from chronic disease				
- No ^{a)}	–	–	–	–
- Yes	0.139**	0.128**	0.130**	0.133**
Self-rated health				
- Very bad/bad or moderate ^{a)}	–	–	–	–
- Good/very good	–0.116**	–0.066	–0.058	–0.061
<i>II. Psychological functioning</i>				
Psychological wellbeing	–	–0.254***	–0.249***	–0.242***
<i>III. Contextual factors</i>				
Receiving support				
- No ^{a)}	–	–	–	–
- Yes	–	–	0.047	0.044
Giving support				
- No ^{a)}	–	–	–	–
- Yes	–	–	–0.011	–0.014
Social connectedness				
Size of networks	–	–	–0.032	0.041
Number of confidants	–	–	–0.012	–0.006
Economic support				
- Remittances	–	–	–0.001	–0.022
- Household wealth index	–	–	–0.069	–0.049
<i>IV. Living arrangements</i>				
- Live with grandchildren only ^{a)}	–	–	–	–
- Live with children and grandchildren	–	–	–	–0.101
- Live with children only	–	–	–	–0.124*
- Live with spouse/alone, and children within walking distance	–	–	–	–0.035
- Live with spouse/alone, and no children within walking distance	–	–	–	–0.014
<i>Adjusted R Square</i>	0.131	0.190	0.189	0.193
<i>Significant F change</i>	10.953***	14.943***	9.692***	8.133***

^{a)} Reference category; Significance level: * $p < .05$; ** $p < .01$; *** $p < .001$.

education and self-rated health. This can be explained by the fact that the psychological wellbeing has a positive association with level of education and self-rated health measures (data not shown). These findings indicate that, although psychological wellbeing has a strong negative association with depressive symptoms, the older persons' age, sex, and difficulties from chronic disease also have strong independent relationships with depressive symptoms.

Contextual factors are added into Model 3. There is no effect of any of the contextual factors on depressive symptoms. Results in Model 4 indicate that varying types of living arrangements are differentially related to depressive symptoms. Older persons who live only with their grandchildren (i.e., the skipped-generation households) have higher depressive symptoms than do their counterparts who live in two-generational households (older persons who live with their children only). However, the other kinds of living arrangements are not significantly different from those in skipped-generation household with respect to their depressive symptoms.

When examining all the independent variables in this final model, we note several interesting relationships. Only personal characteristics, psychological wellbeing, and living arrangements have a significant association with depressive symptoms among older persons in this study. When living arrangements are added into the model, we see that older persons living in two-generational households are less depressed than those living in skipped-generation households. Further, the relationship between currently working and depressive symptoms emerges as significant. This significant relationship may have emerged because the proportion of older persons who are currently working and live in skipped-generation households are about two times greater than some of the other living arrangement categories (i.e., those who are in multi-generation and those who are in two-generation households; data not shown). It is interesting to note that none of the individual contextual factors has a statistically significant association with depressive symptoms, and the contextual factors as a block slightly reduce the explanatory power of the variation in depressive symptoms in comparison to the previous regression model. (The adjusted R^2 increased from 13.0 to 19.0, but declined to 18.9, and then increased to 19.2% in models 1, 2, 3, and 4, respectively). There is a statistically significant F-change in each model, which indicates that each set of the independent variables has a linear relationship with the level of depressive symptoms.

Discussion

This study contributes to our understanding of factors that are associated with psychological functioning in Thailand. Our research builds upon previous work by examining both positive and negative aspects of psychological functioning. We found that living arrangements are significantly associated with both psychological wellbeing and depressive symptoms; however, personal and contextual factors have a more differentiated relationship with psychological functioning. In this section, we highlight the key findings from the study, discuss limitations of the research, and make suggestions for future studies.

Key Research Findings

Our findings suggest that older persons in skipped-generation households may be more vulnerable to poor psychological functioning than those in some other living arrangements. Specifically, older persons living only with their grandchildren had poorer psychological wellbeing as compared to those who were living with both their children and grandchildren and those whose children did not live within walking distance. Further, older persons living only with their grandchildren had more depressive symptoms than those living with their children. In sum, when we consider both the positive and negative aspects of psychological functioning, it seems that living only with grandchildren is associated with poorer psychological wellbeing and more depressive symptoms as compared to some of the living arrangements examined in this study.

This finding is particularly important because it is a norm within Thai society that older parents and their adult children support each other, including the expectation that older parents will assist their adult children by caring for their grandchildren (Lewis 2005). Other studies have found that older adults may have little choice as to whether they will care for their grandchildren (Kamnuansilpa and Wongthanavas 2005) and that some adult children take advantage of their older parents by leaving grandchildren in their care without adequate discussion (Ingersoll-Dayton et al. 2017).

In a qualitative study on skipped-generation households (Ingersoll-Dayton et al. 2018a), some grandparents felt trapped by their responsibilities for their grandchildren. One grandmother who was caring for two grandchildren talked about how she missed opportunities to socialize, travel, work, and go to the Buddhist temple. Other research has found that there are several sources of conflict between older adults in skipped-generation households and their adult children (Tangchonlatip et al. 2019). These conflicts include migrant children sending home insufficient remittances to care for the grandchildren and disagreements between the older parent and the migrant child about the discipline as well as the education and future living arrangements of the grandchildren. Findings from the present research, in conjunction with these previous studies, suggest that when grandparents live with their grandchildren, this living arrangement may come at a cost to their psychological functioning.

This study also points to two kinds of living arrangements that are associated with greater psychological well-being when compared to those living in skipped-generation households. The first kind of living arrangement is when older Thai people live in multi-generation households. Our findings are consistent with previous research indicating that when Thai older adults live in three or four generational households, they feel secure knowing that someone is available to care for them in the present as well as in the future (Nantsupawat et al. 2010). The second kind of living arrangement associated with improved psychological wellbeing for older Thai people is when they live with a spouse/or alone without children living within walking distance. Although we were not able to determine the migrant status of adult children from the available data, it is likely that many of the older adults in this living arrangement had adult children who were living at a distance due to migration. Previous research by Abas et al. (2009a) indicated that, because there were often insufficient employment opportunities for adult children living in rural areas of Thailand, their aging parents wanted them to migrate to improve their economic opportunities. Migration of adult children

particularly in rural areas (Smuckarn 1998), generally involves the sending home of remittances to their left-behind parents (Abas et al. 2009a). These financial resources as well as the enhanced social status of the left-behind older adults could contribute to their higher psychological wellbeing.

Our research also highlights one kind of living arrangement that is associated with fewer depressive symptoms; specifically, those who live with their children have fewer depressive symptoms than do those who lived in skipped-generation household. Our findings are somewhat different from those of Abas et al. (2013) who determined that older parents who lived with a migrant child who had returned home were at greater risk of depressive symptoms. A possible explanation for this difference is that, while we did not ask about the migrant status of the adult children in the household, the adult children with whom the older adults lived were likely a combination of children with whom they had lived for a long time as well as migrant children who had returned home. Instead, our findings about the lower levels of depressive symptoms among those who lived with adult children is consistent with traditional cultural expectations of adult children in Thailand. Thailand is primarily a Buddhist country and caring for aging parents is one of the main tenants of Buddhism (Kespichayawattana 1999; Podhisita 1998; Smuckarn 1998). As parents age, it is expected that adult children will take care of their parents, including living with them to provide assistance. Thus, living with an adult child may have contributed to less depressive symptoms among aging parents because they were receiving care that was consistent with their cultural expectations (Quashie and Pothisiri 2018; Teerawichitchainan et al. 2015).

An additional interesting finding was the differential relationship between varying personal factors and the two dimensions of psychological functioning. We found that several of the personal characteristics (i.e., age, gender, working status, and difficulties from chronic disease) were associated with depressive symptoms while other factors (i.e., marital status and self-rated health) were associated with psychological wellbeing. One possible reason, these personal characteristics predicted differentially to the two kinds of psychological functioning is because of the way in which the psychological functioning measures were created. To illustrate, the measure of psychological wellbeing assesses, in part, the extent to which older adults feel socially connected. The self-rated health measure (which was associated with psychological wellbeing) had a similar social component; that is, older adults were asked to rate their health by comparing themselves with others in their age group. Thus, the relationship between self-rated health and psychological wellbeing may be partially a function of the similarity between these two measures in that they both have a social component. In contrast, the depressive symptoms measure focuses more on self-perceptions about one's own health situation without any reference to other people.

Another important finding is that the contextual factors (i.e., support received from children/grandchildren, remittances, and household wealth) are consistent predictors of psychological wellbeing but not of depressive symptoms. We found that support received from children/grandchildren, as well as receiving remittances and having household wealth were related to higher psychological wellbeing. A likely reason for these strong relationships may be the cultural specificity of the psychological wellbeing measure that taps into inter-relatedness as compared to the measure of depressive symptoms that is based on self-evaluations. To the extent that the psychological wellbeing measure was developed in Thailand and captured components of inter-

relatedness and Buddhist beliefs (i.e., acceptance), it is not surprising that the contextual factors are significantly associated with this culturally sensitive measure of psychological wellbeing.

Limitations and Suggestions for Future Research

This study has limitations that need to be acknowledged. First, the research was conducted in one part of Thailand (i.e., Kanchanaburi province) only; this province is not representative of all provinces in Thailand. Therefore, future research examining living arrangements should be based upon a probability sample that is representative of all the provinces in Thailand.

Second, this study uses a cross-sectional design so we cannot make causal claims about the relationships between the factors included in the analysis (i.e., personal characteristics, contextual factors, and living arrangements) and psychological functioning. Longitudinal data are needed to examine the impact of these factors on psychological functioning.

Third, we have identified older adults in skipped-generation households as more vulnerable to psychological functioning problems than older adults in some of the other living arrangements we considered. However, our study cannot specify what aspects of skipped-generation households make them vulnerable. It is likely that the older adults living only with grandchildren have considerable grandchild care responsibilities. However, older adults in the other living arrangements (i.e., with adult child living within walking distance) may also have grandparenting responsibilities. Further research is needed to identify the extent of grandparenting responsibilities experienced by older adults in all living arrangements as well as the factors that moderate the burdens of grandchild care.

Fourth, while we have conjectured that the migration status of adult children may impact the psychological functioning of their aging parents, the data did not allow us to determine the migration status of the older respondents' adult children in this study. We suggest that future research on living arrangements include a more detailed examination of the migration status of adult children in an effort to better understand their aging parents' psychological functioning.

Finally, though the two dependent measures used in this study were culturally validated in Thailand, the items may not be sensitive to other cultures. The PWB was developed just for Thailand, while the EURO-D was originally developed in several European countries and eventually revised for use in Thailand. For those interested in cross-cultural comparisons, we suggest that future studies use a combination of psychological functioning measures that are both culturally specific and culturally generalizable.

Despite these limitations, the present study makes important inroads to identifying ways in which older adults can age well. One of the contributions is the discovery that personal characteristics, contextual factors and living arrangements are differentially related to varying aspects of psychological functioning. Importantly, we found that for Thai elders, living arrangements were the only set of factors associated with both psychological wellbeing and depressive symptoms. Specifically, our study points to older adults in skipped-generation households as having lower psychological wellbeing

and higher depressive symptoms as compared to those in some of the other living arrangements we considered. Given these findings, we urge other gerontological researchers to continue this effort to include multiple aspects of psychological functioning to elucidate what makes for a good life. Further, we suggest a continued examination of living arrangements to identify those who are flourishing as compared to those who are more vulnerable to poor psychological functioning. This continued examination will enhance the efforts of service providers involved in the development of supports that can bolster older adults' psychological functioning.

Appendix

Development and validation of psychological wellbeing measure in Thailand

An interdisciplinary team of Thai and American researchers (Ingersoll-Dayton et al. 2001, 2004) applied a bottom-up approach, integrating qualitative and quantitative methods to develop and validate a measure of psychological wellbeing (PWB). The research team first explored local meanings and identified dimensions of wellbeing through focus group discussions and in-depth interviews with a total of 67 Thai older persons aged 60 and above living in both rural and urban areas, identifying five dimensions of wellbeing.

Secondly, results from the first qualitative approach were used to develop closed-ended items (e.g., "In your family, people get along well together") which were subsequently validated by four experts in gerontology or quality of life in Thailand. Using these items, the research team conducted a survey of 477 older persons living in Bangkok and three nearby provinces. Through the survey, a number of measurement issues were identified.

Third, in order to address these issues and improve the interview process, the research team conducted cognitive interviews with 30 Thai older persons to refine the measure, changed the wording of items and the response set, and identified culturally appropriate interviewing strategies. Fourth, the revised PWB measure was included in a second survey with 460 older Thai people and psychometrically assessed for its reliability and validity.

In sum, the PWB measure for Thai older persons consists of five domains (i.e., harmony, interdependence, acceptance, respect and enjoyment) which are distinctly different from domains of psychological wellbeing identified by researchers in the West (Ryff and Keyes 1995).

Modification and validation of Euro-D measure in Thailand

Several steps were taken by a team of British and Thai researchers to ensure the cultural sensitivity of this measure (Abas et al. 2009a). First, they conducted focus groups with older people to explore perceptions, attitudes, and beliefs about health, wellbeing, and depressive symptoms, as well as social and family supports. Second, the original EURO-D's items were translated and back-translated into English by bilingual mental health professionals, social scientists, and English psychiatrists focusing on conceptual and semantic equivalence (Abas et al. 2009a). The translated EURO-D questions were

pretested, and some wording was modified according to results from both the focus group discussions and pretesting with individuals (Abas et al. 2009a).

Based on these focus groups and the translations, the research team found that some words in the EURO-D such as concentration, depression and pessimism were difficult to translate. Subsequently, the team modified these words to make them more readily understood by older Thai people. For example, one question “Can you concentrate on entertainment or reading?” was modified to “Can you concentrate on daily activities that you like such as listening to the monk’s teaching, the radio or watching television?” Similarly, another question, “Have you been feeling depressed?” was changed to “Have you been feeling sad, gloomy or in despair?”

Furthermore, since most Thai people are Buddhist, revisions of the EURO-D were guided by Buddhist concepts. One such concept was karma. The law of karma holds that one’s future happiness and distress are a function of past and present deeds (Ingersoll 1966; Kirsch 1977; Pfanner and Ingersoll 1962; Podhisita 1998). To address the concept of karma, the research team examined EURO-D items related to future outcomes. For example, one item from the original EURO-D asked, ‘Do you think your future is going to be pessimistic?’ The Thai version of the EURO-D revised this question to ask, ‘Do you have any hope or think that in the near future good things might happen to you?’ Following these revisions to enhance the measure’s cultural sensitivity, the research team checked to ensure that items in the Thai revised EURO-D were understood and that there was conceptual equivalence with the original version of EURO-D (Abas et al. 2009a, 2009b, 2013; Jirapramukpitak et al. 2009).

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