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# Active Aging: Social Network of Community-Dwelling Thai Elderly

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## Abstract

This study aimed to investigate the relationship between active aging, social network, and community-dwelling Thai elderly in Northeastern of Thailand. A total of 405 Thai elderly, we adopted a systematic random sampling was used for data collection, and conducted in 2018. This study shows that 63.5% were female, mean ± standard deviation (SD) age of study subjects was 68.9 ± 6.7 years. It has made up 66.4% that moderate levels of active aging. Health, participation, and security dimension most subjects had a moderate level at 72.9%, 61.2%, 67.7%. We found that a positive associated with personal factor, household factor, community factor, and social network factor. Our results also suggest that elderly service providers should pay more attention to group interaction, neighboring support, and facilitated in the community.

**Keywords:** Social network; Active aging; Community-dwelling; Thai elderly; Thailand.

## 1. Introduction

A declining birthrate and increased longevity have transformed Thai into an aging society. According to the National Statistical Office (2014) report, rising 10% in 2005 to 14% in 2015. The mean life expectancy is 72.30 years for Thai men and 79.30 for Thai women. The changed of demography structure is bringing various economic, social, and political challenges. Therefore, the interpersonal and community have become an important issued in aging societies. Elderly people required a lot of assistance from family, community, and society. The care that they require is not just simply home help and community services. These elders become more complicated as their physical, mental health, and deteriorate owning to aging. This finding is consistent with Thanakwang and Soonthorndhada (2011) and Boongird and Ross (2017) indicates that family, friend networks and support, and healthy aging have a significant direct effect on the Thai community-dwelling elderly.

Social networks have become especially relevant for the elderly population. Community networks of elderly not only provide opportunities for contact but also furnish the context through which both instrumental and support are received. Furthermore, some researchers have examined the importance of social networks in the provision of support services to the aging in community-dwelling elder (Jiang *et al.*, 2017). Furthermore, although networks are not necessarily synonymous with support (Kim and Lee, 2019), elderly with greater personal resources (i.e., information, participation, and support) and community networks (i.e., larger networks and higher frequency of contact). A larger network between interpersonal and community-dwelling elderly might increase the chance of receiving help as having strong network resources (Gyasi *et al.*, 2019). However, as social networks.

To date, there has been little age-specific social network of aging society in community-dwelling (Boongird and Ross, 2017; Golden *et al.*, 2009; Kim and Lee, 2019). However, this paper begins by highlighting concerns about a social network has keenly ascribed coping as an important the potential for elderly generation in an aging society. Strong social networks appear to be good predictors of active aging outcomes, including personal, household, and community. Elderly who are embedded in larger, stronger, and supportive social networks, maintain better mental health in community-dwelling (Holt-Lunstad *et al.*, 2010). Many elderly adults wish to remain productive network to "give back" to the community and society.

Our paper draws attention to examine relationships between social network and active aging has largely on the positive effect of network structural characteristics (personal, household, and community). Personal social network, for example, has been identified as an interaction and participation in social activities in some (Rodríguez-Madrid *et al.*, 2019) studies of personal network. A small number of studies, however, have also indicated that household and community-dwelling elderly adult network (Cheng *et al.*, 2018; Kim and Lee, 2019) studied on weak social network.

## 2. Literature Review

### 2.1. Personal-Dwelling Elderly Social Network

Our study examined how personal network structure is the influence of community-dwelling elderly. Conceptualizing the "personal social network" is as ongoing challenge, we follow prior research Van Duijn *et al.* (1999), a closely the relationship between personality and network size. Each of this study has identified the center of personal interaction, participation, and connections to each other. According to Smith *et al.* (2015), defines the

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personal networks are often studies on the size of small – typically the 2–30 of the people most strongly connected to the person at the center. Yet, personal network has focused on the relationships rather than assuming that the world is built up on society.

Most measures of personal network as a set of age, education, and income levels McCarty *et al.* (2000). Like most of its generalizations, Li and Zhang (2015) model implicitly assume that every elderly is connected to every other both participant and reciprocal associations. In another domain, Ellwardt *et al.* (2015) found that aging has consistently demonstrated an increase chance, survival, personal relationship, and rich networks. Although studying a subset of these relationship feature has important implications, a more-comprehensive characteristics of personal network along four primary dimensions: participation, connection, appraisal support, and reciprocity. An individual with a diverse network type has broader range of supportive relations with family, friends, and neighbors, and frequently participate in various social activities (Fu *et al.*, 2018).

### 2.2. Household-Dwelling Elderly Social Network

Most of previous studied on family-dwelling elderly provide strong social networks (e.g., frequent contact with family members) and network members interaction (e.g., sources of support with network members). Some studies (Shiovitz-Ezra and Litwin, 2012) address various forms of diversity (variety of sources support with network members), family-focused, friend-focused, and restricted (few sources of support with network members). It is necessary to categorize family-social network, according to types of activity involved, but only few researches have suggested such definition, although they only used group membership in their analysis. Empirical evidence supports the linkage between strong ties network and the adoption of family-dwelling elderly groups.

Consistent with earlier studied (Thanakwang and Soonthorndhada, 2011) the two types are likely to emerge in each of friendship networks, but their strong ties will differ. This study argues that strong ties of friendship networks depend on friendship supports, family supports, family members. Previous research has shown that group network types correlated with psychosocial outcomes among older adults, such as types of social group (Moeini *et al.*, 2018). Our expectation is that among elderly-family-dwelling those with diversity (variety of sources support with network members) that help to promote aging society. In doing so, we acknowledge that family-living network covers a diverse set of life histories with another elderly.

### 2.3. Community-Dwelling Elderly Social Network

In this study, we focused on social network of community-dwelling elderly, as suggest by Kim and Lee (2019) that community social networks should be viewed as social service, protection, safe, and respect. There is a vast literature on the social network and community-living, but little of it has concerned a diverse social support network. Regarding elderly in community-dwelling, we know of two studies focusing on reciprocity of weak social networks outside the community (Cheng *et al.*, 2018). Although Aarts *et al.* (2015) social network site usage in community-dwelling, they measured a related social loneliness, mental health, among the elderly in the Netherlands. They found that social network site usage unrelated to loneliness, mental health, and depressed mood, but no among elderly who lived with others.

Similarly, a small number of studies have examined associations between strong ties social networking and community-living elderly. Analyzing 16 European samples of 58,489 elder adults, Tomini *et al.* (2016) found that higher friends in the network appear to be natively related to life satisfaction in community-living. Another study has found that elderly with a larger social network are happier, higher levels of well-being, and social events (Gyasi *et al.*, 2019). Giving this relation, we may assume that while satisfaction with own community-dwelling is generally associated with more intense network relations and larger numbers of network members. Yet, the causal relation between strong tie networks of personal, household, and community-dwelling remain to be explored.

## 3. Methods
### 3.1. Study Setting

The study was carried out using data of the age over 60+, a population-based study of active aging in the areas of location in Yangtalat district, Kalasin province in Northeast, Thailand. It served a large community population of 25,000, with about 18% of the population ages 60 and over (Kalasin Provincial Public Health Office, 2017). According to Activities Daily Live (ADL) reports that the population in this area is ready to elderly. The characters of these elderly are a caregiver, elderly school, and healthy elders, elderly care, and safe food. In order to obtain a representative sample of the population aged 60+, samples were drawn (i) from an age-ordered list provided by the local registry office (ii) from age-ordered list of 4 community-dwell elderly.

### 3.2. Sample and Data Collection

The data for this research was primary data obtained from the community survey conducted by Kalasin Provincial Public Health Office (2017). People aged 60+ and above were randomly chosen for selecting community with 4 villages in Yangtalat district, Kalasin Province. In the present study, we adopted the F-Test of Variance Proportion in Multiple Regression/Correlation Analysis (MCA) equation.

$$\frac{\lambda\left(1 - R_{y.x}^2\right)}{R_{y.x}^2} + U + 1$$

Resulting in 405 elders for the analysis. The study started in 2018, a total of 405 elders were selected to participate in the study via systematic random sampling is as follows the interval equation:

$$K = \frac{N}{n}$$

First, the researcher selected both two communities in urban area and two communities in rural areas. Second, 203 elders in urban community and 202 elders in rural community. In the second recruitment step, household in those areas were selected, stratified by age-groups (60-65) and over 65 years. The questionnaire visited the selected household and conducted interviews with eligible elders in their home one the participants agree to participate. Finally, the sample included a total 405 (257 women and 148 men).

### 3.3. Data Instrument

A questionnaire was developed to explore the availability of the Index of Item Objective Congruent (IOC) to test the pilots. We selected three professional experts on aging society, community-dwelling, and social networks. This study measures in three factors—nineteen variables (X) and one latent variables (Y) —using performed the SPSS. Evidence of the IOC was evaluated the content validity of 19-items in the development stage.

### 3.4. Statistical Analysis

This study used SPSS version 21 to conduct the analysis. The Cronbach's alpha (α) statistic was used to measure internal consistency reliability of statements used for social network of community-dwelling elderly. The data in question did not show normalcy, non-parametric tests (e.g. Pearson Chi-Square) were applied to determine significance of relationships among variables. We analyze using standard score (Z-score) of the active aging score. The following sample equal mean ($\overline{X}$)and standard deviation (S.D.) that is $\overline{X}$ = 0.00 and S.D. = 1.00 The Z-score grouping in 3 groups both the active aging and each dimension level as follows:

Low level = Z-score < -1
Moderate level = Z-score -1 – 1
High level = Z-score > 1

The following analysis was therefore carried out four factors: personal, household, community, and social network, each factor comparing the one with another. Based on the matched dataset, the relationship of statistically significant was < 0.05 and Chi-square tests and 95% confidence interval (CI). Continuous data are presented as mean ± standard deviation (SD) and the number (percentage).

### 3.5. Ethical Considerations

Khon Khaen University Declaration of Helsinki (Human Research Committee) approved the study (HE593025). All older adults who participated did so voluntarily and all participants provided written informed consent.

# 4. Results
## 4.1. Descriptive Analysis

Overall, 405 participants are (63.5%) females and (36.5%) males. On average 68.86 ± 6.68 years, 58% married. The participants had a primary education (82.7%), income (65.4%) is about 3,86.46 Baht, and (65.4%) is below poverty baseline (2,667 Baht). Based upon our survey results, 54% of all respondents indicate that the most the most frequently chronic disease (hypertension, diabetes, kidney disease, heart disease, asthma, gout, hyperlipidemia, stroke, anxiety, thyroid and various pains). During the time, 89.9% of participants were dependent on others for activities of daily living. We found that 81% were not health risk behavior (not smoke, not drink) and only 57% were exercised over 3 times/week. The most of the subjects had their home (76.3%) and most members (52.1%) living together were grandchildren both with and without a spouse.

We next sought to analyze these Z-score with the aim of identifying the aging societies, health, participation, and security. The result in Figure 1 clearly show that benefit this different aging society. The aging society level was based on analyze of 405 made up 67.7%, 54.8%, 61.2% and 67.7% (see Figure 1).

**Figure-1.**
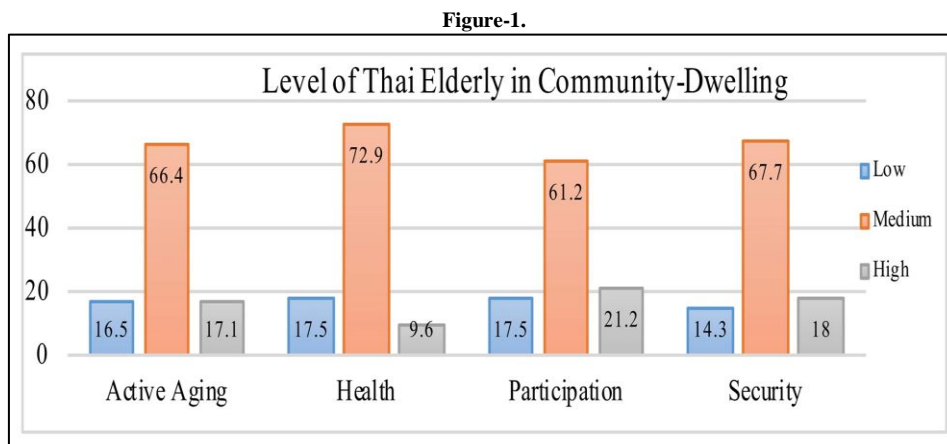


**Source**: Author's Elaboration Using SPSS Software

## 4.2. Univariate Analysis
### 4.2.1 Personal Factor

The remaining 36-items were used in the analysis. The Chi-square tests was accessed to validate all construct in our research. We performed validity assessment in terms of reliability, as shown in Table 1, all of the variable for gender, age, marital status, education, chronic disease, ability to perform daily activities, health risk behavior, exercise, income per month, liability, leisure/recreation, received information, occupation before elderly aging, current work goals, homeowner, and duration living at home.

**Table-1.** Relationship between Personal and Active Aging of Elderly

| Variable | $\chi^2$ | C.C. |
|---|---|---|
| Gender | 6.973* | 0.130 |
| Age | 7.689* | 0.136 |
| Marital status | 8.092 | – |
| Education | 12.570* | 0.173 |
| Chronic disease | 16.754*** | 0.199 |
| Ability to perform daily activities | 31.861*** | 0.270 |
| Health risk behavior | 11.061* | 0.163 |
| Exercise | 77.051*** | 0.400 |
| Income per month | 7.381* | 0.134 |
| Source income | 8.361 | – |
| Liability | 9.738** | 0.153 |
| Leisure/recreation | 7.476*** | 0.394 |
| Received information | 33.334*** | 0.276 |
| Occupation before elderly aging | 24.296** | 0.238 |
| Current work goals | 15.164* | 0.190 |
| Social position/role | 2.329 | – |
| Religion/Belief | 0.507 | – |
| Home-owner | 29.221*** | 0.259 |
| Duration living at home | 7.336 | – |

**Source**: Author's Elaboration Using SPSS Software

### 4.2.2. Household Factor

Table 2 provides the numbers of respondents who reported aging society to household factor in the row categories. The majority of Thai elderly respondents was connected to household structure, caregiver, household economic status, living environment, residential area, and household support. Note that Table 2 only provides a six-dimensional view on the reported household factor (Moeini *et al.*, 2018; Shiovitz-Ezra and Litwin, 2012; Thanakwang and Soonthorndhada, 2011). The identified a significant association was the same in the univariate imputation analysis as those found here.

**Table-2.** Relationship between Household and Active Aging of Elderly

| Variable | $\chi^2$ | C.C. |
|---|---|---|
| Household structure | 21.684*** | 0.225 |
| Caregiver | 18.549*** | 0.209 |
| Household economic status | 12.612** | 0.174 |
| Living environment | 7.449* | 0.134 |
| Residential area | 21.641*** | 0.225 |
| Household support | 26.343*** | 0.247 |

**Source**: Author's Elaboration Using SPSS Software

### 4.2.3. Community Factor

Table 3 presents univariate results for community factor as the outcomes. Of background of community factor, having social services and respect to elderly was positively associated with an aging society. In addition, community involvement, including activities for elderly and community safe were negatively associated with the aging society (see Table 3).

**Table-3.** Relationship between Community and Active Aging of Elderly

| Variable | $\chi^2$ | CC |
|---|---|---|
| Social services | 29.571*** | 0.261 |
| Activities for elderly | 7.126 | – |
| Community safe | 2.938 | – |
| Respect to elderly | 28.871*** | 0.258 |

**Source**: Author's Elaboration Using SPSS Software

### 4.2.4. Social Network Factor

Table 4 shows the results of the univariate and the relationship analyzed of social network factor and an aging society. There was a significant relationship between social networks and aging society of the elderly. The network member characteristics ($p < 0.05$), relationship within network ($p < 0.001$), network activities ($p < 0.001$), network expansion, ($p < 0.001$), and network achievement ($p < 0.01$).

**Table-4.** Relationship between Social Network and Active Aging of Elderly

| Variable | $\chi^2$ | CC |
|---|---|---|
| Network member's characteristics | 11.849* | 0.169 |
| Relationship within network | 50.125*** | 0.332 |
| Network activities | 42.825*** | 0.309 |
| Network expansion | 33.720*** | 0.277 |
| Network achievement | 39.673** | 0.299 |

**Source**: Author's Elaboration Using SPSS Software

## 5. Discussion

The purpose of this study was to examine the social network effect of community-dwelling Thai elderly. We found that social networks were positively associated with community-dwelling elderly, our results were similar to Thanakwang and Soonthorndhada (2011), Boongird and Ross (2017), Jiang *et al.* (2017), Kim and Lee (2019). In comparison, studies investigating the social network perspective in urban Japan found that social isolation was 30% for the elderly living alone in community and only 24.1% living with household (Shimada *et al.*, 2014). For elderly living with community network, promoting community-living, and encouraging friend networks may be important.

Our analysis shows that the active aging is strengthening of the elderly must cooperate between personal, household, communities and social network. Insights from the present research include gender, income, living environment, and social service. In parallel, community centers can host the chronic disease, liability, health risk behavior, received information and residential area. This finding is consistent with Ogawa *et al.* (2019) suggest that network size can associate with strong ties of interaction. That were age, education, ability to perform daily activities, exercise, and caregiver were variables consistent with the study of Sukchoti and Hongwittayakorn (2016).

It can be argued that the relationship between social networks and active aging is a causal to achieve healthy-community aging. A substantial body of research has shown that social networks are a significant determinant of community-dwelling elderly (Myagmarjav *et al.*, 2019; Rodrigues *et al.*, 2019). This study is attributed to the strong ties social network it encourages and improved access to information, member interaction, and friend's engagement to other population of community elderly. The strong heterogeneous social network may enhance community-encourage the elderly to take part in social activities. Although causal relationship is clear and founding factor should be considered, this social network of community-dwelling elderly (living with group with others) could have a greater effect active aging society.

The social networks of the elderly and their relationships with neighbors and friends are also important determinants for the community-living. In according to factors influence the quality of life among elderly in Cambodia (Long and Sudnongbua, 2017) and cognitive function among elderly in China (Cheng *et al.*, 2018). Besides these factors, quality of life study, which relates to household factor, living arrangement, social factor, and social assurance. That showed the factors of individual, household, and community were important to the active aging strengthen and improve quality of life. As previous study in Korea, Choi *et al.* (2018) found that household social network of the elderly stay in their neighborhoods.

As previous studies of Thanakwang and Soonthorndhada (2011) found that social network affect to the health of elderly both directly and indirectly. Our research result shows that social networks related to the active aging and all dimension consist of member's characteristics, relationships within network, network activities, network expansion, and network achievement. Despite the important role of the elderly's social network and active aging is not just about health dimensions. Social networks had to link healthcare, encourage the elderly to participate in activities, increasing community safety, and respect from community members. Strengthening social network and active aging bring to better quality of life, personal respect, household-living, and community-dwelling elderly.

## 6. Conclusion

Our study uses a quantitative data from 405 Thai elderly in the Northeastern, Thailand. This community-dwelling elderly study showed that have a diverse social network may help active aging. The results of this study suggest that meaning in community-dwelling elderly and social network play an important role to mitigate wellbeing and to secure them. Therefore, strengthening the active aging as social network brings to a better quality of life. The implementation of the elderly, their household, community, and social networks to help them to search and maintain positive meaning in active aging. Therefore, elderly service providers should pay more attention to elders with low educational attainment, disability group interaction, neighboring support, and facilitated in the community.

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