



Research Article

Ageing in Place vs. Ageing Relocation and the Elderly's Behaviours

Chawit Yonghencharoen

Thammasat Business School, Thammasat University
Corresponding author e-mail: chawit.yo@gmail.com

Dichapong Pongpatrachai

Thammasat Business School, Thammasat University
E-mail: dichapong@tbs.tu.ac.th

Received: May 25, 2021

Revised: June 16, 2021

Accepted: June 18, 2021

Published: June 23, 2021

Abstract

Since 2010, Thailand has entered an ageing society, with an approximation of 10 percent and above of its population aged over 60 years old. An assumption has been made that by 2030, the ageing population will increase further and Thailand will enter an era of "Ageing Society". This has led to the preparation of seniors nursing homes to accommodate the increasing number of the elderly population. The property management model for senior housing has changed from being merely a nursing home to an alternative option for investment for retirement. Factors affecting the elderly's decisions whether to 'age' at home (Ageing in Place) or to 'age' in nursing homes (Ageing Relocation) are based on the elderly's own habits and attitudes towards life. A positivist case study research methodology, based on a proactive interview using a clear structured set of questions, was adopted in this research. This research found that factors affecting the decision of the elderly are physical needs, psychological needs and social needs. Whilst most elderly were satisfied with their current accommodation, those in the Ageing Relocation group are mostly childless, whereas those in the Ageing in Place group are mostly those who are attached to their children.

Keywords: Elderly Population, Ageing Relocation, Senior Nursing Home, Ageing in Place, Elderly Decision Making

Introduction

Thailand is entering an ageing society, where one in every 10 people in Thailand would be aged 60 and over and classified as elderly population by 2024. This ageing population has brought about preparation for care homes or accommodation to cater for this ageing society. This is evident in the growing number of registered companies with a stated purpose of elderly care, totalling over 800 companies (Department of Business Development; DBD, 2017). Currently, there have been a number of real estate development projects, either already established, or in development, that cater for the

elderly in a variety of models and pricing levels, for instance, the Sawangkanivas Project, the Busyaniwas Project, the Sansiri Hua Hin Project, the Jin Wellbeing Project, and the Senior Complex Project. These developments can be mainly classified into two types of business models: (1) non-transferrable lifelong leasehold without ownership, (2) full property ownership. Both of these business models specialise in designing and constructing the physical environment to be elderly-friendly and provide facilities that cater to the needs of the elderly population. They also feature medical services in case of emergencies and organise group activities.

Such senior complex developments revolutionised the traditional elderly care homes and foster homes into an investment for quality retirement (Chula Unisearch, 2017). The objective of this research is to study the behaviours of the elderly choosing either to Ageing in Place or to Ageing Relocation and to study the factors that affect such decision-making.

Behaviours of the elderly is the main factor that must be given consideration. This is because once they 'age', the elderly population go through changes both physically and mentally. Physical changes include changes in the dermatological, nervous, musculoskeletal, blood circulation, respiratory and gastrointestinal systems. The changes in the central nervous system could also cause mental and emotional changes, such as confusion and forgetfulness, which ultimately affects their social lives. Because the roles of the elderly population are switched from active to inactive, causing them to feel devalued and affecting their sense of pride, they have the needs to be less dependent on others and wish to live in society where they can still take an active part, and demand respect and acceptance (Boonpadung, 2011).

The needs of the elderly increase as they age, following more changes, both physically and mentally. For instance, the elderly aged between 60-69 have a more modern lifestyle and attitudes, wishing to meet friends, and more willing to accept new changes; those between 70-79 wish to spend time with their own families and take part in family activities, and those 80 and above wish to have companion and needs special care.

Therefore, the caregivers (children and grandchildren, as direct descendants of the elderly) should consider this behavioural factor before deciding whether their elderly should considering staying at home in the same environment (Ageing in Place) or moving to a new environment, such as the aforementioned developments especially designed to meet the needs of the elderly

(Ageing Relocation). The second factor that should be given consideration is the quality of the development project, like the physical aspects of the elderly homes, facilities, technology and the architectural designs, as this raises an interesting question of whether or not home could be made in a place where it is not home, and it is this very question to which this research pays close attention. The third factor, one of psychological factor as one of the mental indicators for the elderly, is another aspect upon which this research is based. The final factor that should be given attention is the relationship between generation and decision between ageing 'in place' or relocation.

These factors bring about this qualitative research that studies the behaviours of the elderly, considering factors such as the physical aspects of the senior complex developments, the psychological and social factors as well as the relationship between different generations and their attitudes towards deciding suitable location to 'age'.

Literature Review

1. Ageing in Place and Ageing in Relocation

1.1 Ageing in Place

Ageing in Place has received much attention in many societies and cultures, as when individuals age, they may wish to remain in the same home and community and decide against separating to an elderly-only environment. The World Health Organization defines Ageing in Place as the ability to live in one's own home and community safely, independently, and comfortably and that Ageing in Place is designed to delay or prevent painful relocation to Senior Nursing Home (WHO Centre for Health Development, 2004, p. 9). Whilst the WHO did not specifically discuss the notion of real estate development for the elderly community, it mentions altering the environment and providing facilities in the communities so to prepare and support the ageing society. This is in line with the Thai Gerontology Research and Development

Institute (2020), that provide guidelines and recommendations to support ageing at home, which could be classified into the following:

1) Ageing at home where alterations are made to the individuals' own homes and environments to make it more elderly-friendly, but the design still pays much attention to smooth inter-generation living, to ensure that the elderly could remain in their own home and community for as long as possible;

2) Ageing at home where alternations are not made to the individuals' own homes, but rather to the surrounding public areas of their communities. This case, the related local and governmental authorities, such as the Department of Older Persons, Department of Health, Department of Health Service Support under the Ministry of Public Health, Ministry of Transport and universities could contribute in the provision and improvements of the public infrastructures and services that could facilitate elderly living.

1.2 Ageing Relocation

Ageing Relocation is relocation of the elderly to respond to push factors like declining health, social factors as well as better provisions of elderly-friendly facilities (Lee, 1966) that are in line with the physical decline elderly people face.

Ageing Relocation has been examined since the 1970s. Wiseman and Roseman (1979) found different migration behaviours for elderly people, albeit without a definite pattern. These behaviours include relocation back to home town, relocating to better living environments and relocating to places with better facilities, or places with caregivers. They argue that the decisions are caused by different triggers. Wiseman (1980) discusses the decision making process that affects relocating decision. Wiseman further argues that individuals are faced with options, either to adjust themselves (personal adjustment) or adjust their living environments (housing adjustment), if no adjustments can be made, individuals will decide to relocate.

Despite the much positive support for Ageing in Place (including that from the WHO), there has been no solid evidence that support Ageing in Place over Ageing Relocation when considering quality of life for the elderly (Vanleerberghe et al., 2017). Golant (2020) found that elderly people are negatively affected by the changes in their communities as well as from a growing trend of young people 'moving out'. This is because the elderly are left alone at home and are forced to bear the responsibilities of keeping up the house, as well as bear the cost of maintaining the place which may not be suitable to them anymore. The Chinese study by Gao and Cheng (2020) found that societal and cultural environment of elderly-only communities are more friendly towards the elderly and better facilitate their day-to-day lives. However, in contrast to other studies, physical access to healthcare decreases, though it is possible that this might be observed in some specific settings.

2. Factors affecting decisions of Ageing in Place vs. Ageing Relocation

Wiseman and Roseman (1979) and Wiseman (1980) argue that factors affecting the elderly's decisions whether to relocate or to age 'in place' could be attributed to triggering mechanisms such as physical and environmental factors, family factors which could be internal, i.e. income, experience, familiarity to the living environment; or external, i.e. living expenditures and property market.

This research studies the attitudes and behaviours of elderly population in deciding their places of retirement, either at home (Ageing in Place) or relocation (Ageing Relocation) as well as the alteration of places of living to be elderly-friendly, considering three factors: physical elements of senior complex development projects and the physical factors of the elderly, the psychological factors and the social factors.

2.1 Physical elements of senior complex projects and physical factors of the elderly

Ageing leads to changes in individuals' physical factors. This calls for some changes or alterations to places of living and environment so to facilitate such physical changes as well as the higher need for health care (Acton & Malathum, 2000). In the case where the existing places of living and environment cannot be altered to facilitate the physical changes and the growing need for closer healthcare, elderly people may need to relocate in order to find physical support and facilitation, including the need for a caregiver, the need of medical supervision in the case of prior hospitalisation, or the need for facilitating tools and medical devices (Jorgensen et al., 2009). Current real estate development project for the elderly addresses these needs and were able to develop comprehensive senior complex that could accommodate the elderly both dependently and independently of others (Chula Unisearch, 2017). Supporting physical factors such as the anticipation of the absence of caregivers or difficulty of access when living alone (Tang & Pickard, 2008), as well as memory problems or issues of dementia (Kaplan et al., 2015) have also been shown to affect the decision to relocate for the elderly.

2.2 Psychological Factors

The State of Despair (Goldman, 1988) refers to the psychological and mental state of the elderly that arises after a recollection and a thorough assessment of individuals' own lives, where sense of pride in achievement is replaced by fear of death and the sense of failure. Indeed, the psychological and emotional factors could be widely observed. Goldman (1988) poses that many elderly need to adapt and face the state of dependency on others. Similar effects were also noticed in a study of the elderly in a different culture. A Thai study by Poromyen (2012) found a general sense of sombre amongst the elderly and that the need to relocate has become a sense of burden and pressure, as the elderly spend up to ninety per cent of their time at home.

Therefore, homes to the elderly should not be seen as just a place of lodging, but rather as a place to promote the psychological and emotional wellbeing of the elderly. This agrees with Christensen et al. (1975) who argues that if the elderly are not satisfied with their own homes, their living motivation will decrease, leading to a declining state of mental health.

2.3 Social Factors

Whilst some may view the elderly population as idle, unwilling to experience new things, and prefer to stay home, taking care of descendants like their grandchildren, this is not really the case for the current elderly population, who have been argued to be more active and willing to travel, learn and experience new things and view retirement as starting a new chapter of life. Therefore, homes for the elderly should be more than just a care home.

Jenobrom (1998) notes social factors relating to the elderly as the following:

1) Role Theory refers to the effects of accepting of one's own role on one's life and future, for instance, accepting roles as a student, parent, child, grandparent, subordinate, etc.

2) Activity Theory refers to the effects activities and activeness have on both physical and psychological satisfaction, especially when such activities give societal importance and values to the elderly. The Activity Theory is based on creating a new scenario to replace loss, for instance, a loss of loved ones, a loss of esteem, and even a loss of duty of care for children or grandchildren. This theory posits that the elderly will usually engage in or initiate activities to replace for their losses and to generate a sense of esteem and belonging in the society. The formation of elderly groups' and their engagements in activities could bring about meaningful social relations, which Gloria and Charmaine (2010) argue, could then lead to the creation of good norms and values which are shared among the elderly.

3) Continuity Theory refers to the effects of elderly population continuing habits, activities and ways

of lives have on their continued satisfaction, for instance, staying in the same neighbourhood or community even after relocating. Some of the elderly reported they did not wish to move out of their neighbourhood or environment, despite the physical aspects of their current places of living being unsuitable and unfriendly towards their needs (Severinsen et al., 2016)

4) Social Support Theory refers to the positive effects social support has on the elderly's mental wellbeing. It posits that social support acts as a buffer and bolster for the elderly's emotional stresses (Patrick & Jean, 1993) and with sufficient care and respect, social support could act as an effective shield for the elderly.

Methodology

In order to inform this research, the use case studies was adopted as it is suitable for an in-depth understanding of the issue at hand (Yin, 2003) and other research methods might not be able to provide enough profundity into the important details and behaviours of the elderly. A total of six cases were examined. Since qualitative research method is dealing with the depth of studies. Sample sizes are irrelevant. (Yin, 2003). These six cases comprised elderly deciding to age at home (Ageing in Place) and

relocate (Ageing Relocation), as well as in the period of considering for relocation. Each of these groups comprised two cases so to yield greater validity and for ease of comparison. However, it should be noted that for the Ageing Relocation group, validity might be compromised due to the need for a snow ball sampling method, given the limitation in finding sample population for this group.

In-depth interviews were used. The interview comprised structured open-ended questions based on positivist approach to interviewing. The interview followed the principles espoused by Rubin and Rubin (2011) in terms of the formulation of interview questions and relevant nudging probes. The collected data was analysed individually and compared against one another following Miles and Huberman (1994)'s approach. The interviews data had been conducted during 2020 - 2021.

Findings

The research found different behaviours and factors that affected the elderly's decision for Ageing in Place and Ageing Relocation. The findings of the interview of six case studies are summarised as a table below.

Table 1 Behaviour of Case Studies

	Ageing in Place		Considering Relocation		Ageing Relocation	
	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Basic Information	<p>Age: 71</p> <p>Marital Status: Widowed</p> <p>Living with: Children and grandchildren</p>	<p>Age: 61</p> <p>Marital Status: Married</p> <p>Living with: Partner, children and grandchildren</p>	<p>Age: 60</p> <p>Marital Status: Single</p> <p>Living with: Alone</p>	<p>Age: 65</p> <p>Marital Status: Single</p> <p>Living with: Sister</p>	<p>Age: 65</p> <p>Marital Status: Single</p> <p>Living with: Alone (in elderly development)</p>	<p>Age: 77</p> <p>Marital Status: Married</p> <p>Living with: Partner (in elderly development)</p>
Daily Routines	<ul style="list-style-type: none"> • House chores • Baby-sitting grandchildren 	<ul style="list-style-type: none"> • House chores • Baby-sitting grandchildren • Oversee some business operations from home office 	<ul style="list-style-type: none"> • Active member of a company board • Attend meetings, conferences and exhibitions • Learn Chinese 	<ul style="list-style-type: none"> • University lecturer • Research adviser 	<ul style="list-style-type: none"> • Morning monk alms offering • Reading • Exercising 	<ul style="list-style-type: none"> • Exercising • Cooking • Watching TV • Trading stock

Table 1 (continued)

	Ageing in Place		Considering Relocation		Ageing Relocation	
	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Healthy Activities	None	None	Regular exercise	None	Under rehabilitation with regular physiotherapy sessions	Regular exercise
Attitudes towards current place of lodging	<p>Satisfied:</p> <ul style="list-style-type: none"> Happy with place of lodging and ability to spend time with family. Ease of travel and access Sense of safety Wish to improve the house conditions for the sake of family 	<p>Satisfied:</p> <ul style="list-style-type: none"> Happy with place of lodging and ability to spend time with family. Ease of travel and access Happy to be in close proximity to relatives Sense of safety and familiarity 	<p>Satisfied:</p> <ul style="list-style-type: none"> Happy with place of lodging Ease of travel and access Satisfied with facilities of the development, like security, etc. <p>Dissatisfied:</p> <ul style="list-style-type: none"> Loud neighbour 	<p>Satisfied:</p> <ul style="list-style-type: none"> Happy with place of lodging Ease of travel and access <p>Dissatisfied:</p> <ul style="list-style-type: none"> Loud neighbour Too little space for gardening 	<p>Satisfied:</p> <ul style="list-style-type: none"> Happy with place of lodging Availability of nurse and carers Enjoy the green space Ease of travel and access <p>Dissatisfied:</p> <ul style="list-style-type: none"> Food quality Staff behaviour 	<p>Satisfied:</p> <ul style="list-style-type: none"> Happy with place of lodging Enjoy the green space Enjoy the atmosphere and clean air Enjoy group activities
Social Contact	<ul style="list-style-type: none"> Mostly spend time with family Annual gathering with friends 	<ul style="list-style-type: none"> Mostly spend time with family Limited group of friends 	<ul style="list-style-type: none"> Meet people and make friends through attending courses and seminars 	<ul style="list-style-type: none"> Regular travel with group of friends of the same age Meet students through teaching and research 	<ul style="list-style-type: none"> Social contact through taking part in the development's activities Occasional travel with group of friends 	<ul style="list-style-type: none"> Elected as Chair of the Homeowners' Association within the development Advise the development on the rules and codes of conduct
Positive and Negative Factors affecting Mood	<p>Positive:</p> <p>Able to stay with family</p> <p>Negative:</p> <p>Concerns and frustrations over and due to children and grandchildren.</p>	<p>Positive:</p> <p>Able to stay with family</p> <p>Negative:</p> <p>Concerns and frustrations over and due to children and grandchildren.</p>	<p>Positive:</p> <p>As an introvert, able to stay independently with occasional social contact.</p> <p>Negative:</p> <p>Loud neighbour</p>	<p>Positive:</p> <p>Reading, Doing research, Gardening</p> <p>Negative:</p> <p>Loud neighbour</p>	<p>Positive:</p> <p>The development's vast green space and gardens</p> <p>Negative:</p> <p>The development's food service, Poor quality of service from some of the staff</p>	<p>Positive:</p> <p>Singing, Going on road trips with partner, Joining the development's activities</p> <p>Negative:</p> <p>N/A</p>

An assumption can be drawn from comparing the different cases' basic information that those in the Ageing Relocation and the Considering Relocation group are the elderly without direct descendants, like children or grandchildren. From this, it might be argued that when

the elderly have children, a bond is created, and therefore, despite dissatisfaction in their places of lodging, they will still choose to age in place. One case justified her decision as the following:

“I am staying with my children, why should I go anywhere else? I have many children so I can move around, stay with one, then move to stay with another. . .”

It is apparent that in every case studies, the elderly are satisfied with their current places of lodging. It is interesting to note that every elderly mentioned the Four Basic Human Needs in the interview. They acknowledged their need for safety, good health, stable income as well as social needs such as being able to participate in social activities, either with friends or family.

The key noticeable differences between those in the Ageing in Place and Ageing Relocation groups are that whilst the elderly were both satisfied with their places of lodging, even before relocating in the Relocation group, the Relocation group and the Considering Relocation group expressed concerns over the lack of care and caregivers due to having no direct descendants, whereas the Ageing in Place group did not see the need to do so for this very reason. Nonetheless, elderly in the Ageing in Place group were sometimes affected psychologically and mentally from rows and arguments with their direct descendants, causing some to move to stay with another child. Therefore, real estate development of long-term family/extended family housing should take this factor into consideration and design and partition spaces in order to create some area of freedom within the same household.

A key factor affecting relocation, in both the Relocation and Considering Relocation groups, could be having no direct descendants, as every single elderly in both these groups have no children. Building upon this, factors contributing to Ageing Relocation could be classified into three main factors: physical, psychological and social. For the physical factor, the elderly who have relocated to senior complex development did so due to the need for caregivers or to rehabilitate themselves in old age. For the psychological factor, the majority of the elderly in the

Relocation and Considering Relocation groups enjoy independently doing personal activities, such as reading and travelling, whereas the Ageing in Place group enjoy spending time with family, baby-sitting grandchildren, but in the same time, they sometimes get dissatisfied by their family. Arguably, therefore, living with family, for elderly in this group, could bring about both satisfaction and dissatisfaction. For the social factor, most elderly in the case studies still take an active part in their social lives, maintaining social contact, like travelling with friends, teaching, advising research students, attending seminars, joining on-line communities, or taking an active role in the senior complex’s homeowners’ committee, even in the Relocation group.

Discussion, Suggestions and Potential Applications

In each and every case study, the key similarity lies in the need for physical security, that is the Four Basic Human Needs which are essential to the human lives, such as good health, stable income as well as social needs such as being able to participate in social activities, with friends and family. Despite the differences in the final decision (Ageing in Place vs. Ageing Relocation), the need for caregiver at an old age seems to be the determining factor affecting the outcome, as those who decide to age at home have direct descendants and those who decide to relocate do not.

Several Western literature, however, are in conflict as to which factor is the best predictor of the elderly’s decision to either age in place or relocate, as different studies reached different conclusions, ranging from the change in community environment (Vanleerberghe et al., 2017; Golant, 2020), different social environment (Gao & Chenge, 2020), the need for caregivers (Acton & Malathum, 2000), or to the need for complete medical care (Jorgensen et al., 2009), although this could be attributed to the fact that some participants in these studies are healthy individuals and might not be

considering physical needs as the sole determinant of their decision.

The study found similar psychological factors among the elderly. They were found to be satisfied by reading, singing, enjoying nature and travelling; and dissatisfied by noisy environments as well as being hot-tempered. Those ageing in place and looking after grandchildren were found to be dissatisfied by the concerns for their grandchildren. It is important to note that in the one case study which reported dissatisfaction from having a noisy neighbour, this could not be wholly attributed to the change in environment *per se* but rather the change in how the elderly themselves regard their surrounding environment.

The study also found that social factors play quite a major role in determining the elderly's level of happiness and satisfaction in life. All elderly in the case studies acknowledge and accept their roles in society and are determined to perfect and continue such roles. The ability for the elderly to successfully execute their roles and to participate in friendship groups or activities could help to increase their satisfaction. It was observed that the elderly in the study highlighted the importance of belong to groups, either to learn new things, or to travel.

Thailand is entering an Ageing Society, that is full of arguably physically- and emotionally-frail elderly population, despite still needing quality of life in retirement. Based on the findings of this research, the following recommendations are made:

1. The public sector and related authorities should enable and support the elderly beyond retirement age to work. This is in order to give them the opportunity to stay active, as well as to make income, creating a sense of security.

2. The construction and renovation of places of lodging for the elderly, either at home or in senior complex development should pay particular attention to

the basic physical elements and facilities needed by the elderly, safety, as well as to consider ease of access to medical facilities.

3. Real estate development businesses should consider designing properties to accommodate the inevitable ageing of certain members of the family. This might be done by having some areas of the house ready for expansion. Furthermore, the property design should be done in a way that warrants some degree of privacy, independence and freedom, as some elderly - whilst still wishing to age at home - prefer to have some privacy. This highlights the important need to fully regard and thoroughly consider the intergenerational needs of residents, carefully balancing privacy and common areas, when designing properties. In addition, the building materials have to be carefully selected, minding the needs of the elderly, for example, installing a shock-proof flooring, railings in places where there is a high risk of fall, like in the bathrooms and staircases.

4. Real estate development companies with senior residential complex projects to accommodate ageing relocation should pay particular attention to the design of elderly communities to accommodate the demands and preferences of the elderly. This study found that many elderly prefer a large outdoor and green space for exercising and recreational activities. Related authorities could initiate projects, such as the Elderly School so the elderly could get together and exchange ideas and knowledge. Elderly people with different expertises could be invited to speak on their specialist areas of interests. People entering the retirement age between ages of 50-59 might also enrol in classes and activities on healthcare tips and to learn some medical and technological devices they might need in old age.

This research found that in Ageing Relocation, the elderly could be happy and satisfied and independently live their own lives provided that there are supporting physical environment, such as adequate facilities, presence of caregivers, availability of medical care, as well as group

and activities to participate in. The limitation of this research is in terms of the limited sampling, especially in the Ageing Relocation group, as the sample in this group were mostly financially stable and of similar socio-economic status. Therefore, this research suggests that subsequent qualitative research should include a much larger sample, including those from different socio-economic status and those older in age, so generalisation could be achieved and to further enhance the validity in the findings and to confirm the relationship between the decision to age at home and having direct descendants. Further studies, incorporating other dimensions are also needed to rule out the potential effects they may have, in order to fully grasp and understand the phenomenon at hand.

References

- Acton, G. J., & Malathum, P. (2000) Basic need status and health-promoting self-care behavior in adults, *Western Journal of Nursing Research*, 22(7), 796-811, doi: 0.1177/01939450022044764
- Boonpadung, S. (2011) *Improving the quality of life of the elderly in school-based training on the sufficiency economy (การพัฒนาคุณภาพชีวิตผู้สูงอายุในห้องถิ่นโดยใช้โรงเรียนเป็นฐานตามหลักเศรษฐกิจพอเพียง)*, Bangkok: Suan Sunandha Rajabhat University. (in Thai)
- Christensen, D. L., Carp, F. M., Cranz, G. L., & Wiley, J. A. (1975) Objective housing indicators as predictors of the subjective evaluations of elderly residents (1), *Journal of Environmental Psychology*, vol. 12, no. 3, pp. 225-236.
- Chula Unisearch. (2017) *A project to study the model of service, administration and accommodation management for the elderly (โครงการศึกษารูปแบบการให้บริการการบริหารและการจัดการที่พักสำหรับผู้สูงอายุ)*, Bangkok: Chula Unisearch. (in Thai)
- Department of Business Development (DBD). (2017) *Commerce accelerates to solve the problem of shortages and standards of elderly care personnel (พาณิชย์เร่งแก้ปัญหาการขาดแคลนและมาตรฐานบุคลากรดูแลผู้สูงอายุ)*, Available: https://dbd.go.th/news_view.php?id=469404775 [17 December 2020] (in Thai)
- Gao, S., & Cheng, Y. (2020) Older people's perception of changes in their living environment after relocation: A case study in Beijing, China, *International Journal of Environmental Research and Public Health*, vol. 17, no. 6, doi: 10.3390/ijerph17062021
- Gloria, G., & Charmaine, S. (2010) *Ageing, ageism and abuse*, Available: <https://www.sciencedirect.com/book/9780123815088/aging-ageism-and-abuse?via=ihub=> [17 December 2020]
- Golant, S. M. (2020) Aging in place - or trapped in place?, *Aging Today*, pp. 7-10.
- Goldman, S. L. (1988) The humanities in science and engineering education, *Bulletin of Science, Technology & Society*, vol. 8, no. 1, pp. 3-5.
- Jenobrom, S. (1998) *Vision for the elderly and non-formal education for the Thai elderly (วิสัยทัศน์ผู้สูงอายุและการศึกษานอกระบบสำหรับผู้สูงอายุไทย)*, Bangkok: Nichin Advertising Group. (in Thai)
- Jorgensen, D., Arksey, H., Senior, H., Parsons, M., & Thomas, D. (2009) Why do older people in New Zealand enter residential care rather than choosing to remain at home, and who makes that decision?, *Ageing International*, vol. 34, no. 1-2, pp. 15-32, doi: 10.1007/s12126-009-9034-7
- Kaplan, D. B., Andersen, T. C., Lehning, A. J., & Perry, T. E. (2015) Aging in place vs. relocation for older adults with neurocognitive disorder: Applications of wiseman's behavioral model, *Journal of Gerontological Social Work*, vol. 58, no. 5, pp. 521-538, doi: 10.1080/01634372.2015.1052175
- Lee, E. S. (1966) A theory of migration, *Demography*, vol. 3, no. 1, pp. 47-57.
- Miles, M. B., & Huberman, A. M. (1994) *Qualitative data analysis a methods sourcebook*, 2nd edition, Thousand Oaks, CA: Sage.
- Patrick, C., & Jean, M. (1993) Social support and health, *Journal of Advanced Nursing*, vol. 18, no. 2, pp. 203-210.

- Poromyen, S. (2012) *The great flood crisis and the elderly: Lessons to find a way out* (วิกฤตมหาอุทกภัยกับผู้สูงอายุ: บทเรียนที่ต้องหาทางออก), Available: https://kb.hsri.or.th/dspace/handle/11228/3602?src=%2Fdspace%2Fhandle%2F11228%2F1%2Fdiscover%3Frpp%3D10%26etal%3D0%26group_by%3Dnone%26page%3D10%26filtertype_0%3Dsubject%26filter_relational_operator_0%3Dequals%26filter_0%3DRoutine%2520to%2520research%26locale-tribute%3Dth&offset=3&firstItem=&lastItem=&locale-attribute=th [17 December 2020] (in Thai)
- Rubin, H. J., & Rubin, I. S. (2011) *Qualitative interviewing: The art of hearing data*, 3rd edition, Thousand Oak, CA: SAGE Publications.
- Severinsen, C., Breheny, M., & Stephens, C. (2016) Ageing in unsuitable places, *Housing Studies*, vol. 31, no. 6, pp. 714-728.
- Tang, F., & Pickard, J. (2008) Aging in place or relocation: Perceived awareness of community-based long-term care and services, *Journal of Housing for the Elderly*, vol. 22, no. 4, pp. 404-422, doi: 10.1080/02763890802458429
- Thai Gerontology Research and Development Institute. (2020) *Housing policy and management for the elderly in Thailand* (นโยบายและการจัดการที่อยู่อาศัยสำหรับผู้สูงอายุในประเทศไทย), Available: <https://thaitgri.org/?p=39256> [17 December 2020] (in Thai)
- Vanleerberghe, P., Witte, N., Claes, C., Schalock, R., Verté, D., De Witte, N., & Schalock, R. L. (2017) The quality of life of older people aging in place: A literature review, *Quality of Life Research*, vol. 26, no. 11, pp. 2899-2907, doi: 10.1007/s11136-017-1651-0
- WHO Centre for Health Development (Kobe, Japan). (2004) *A glossary of terms for community health care and services for older persons*, Kobe, Japan: WHO Centre for Health Development.
- Wiseman, R. F. (1980) Why older people move: Theoretical Issues, *Research on Aging*, vol. 2, no. 2, pp. 141-154.
- Wiseman, R. F., & Roseman, C. C. (1979) A typology of elderly migration based on the decision making process, *Economic Geography*, vol. 55, no. 4, pp. 324-337.
- Yin, R. K. (2003) *Case study research: Design and methods*, 3rd edition, Thousand Oaks, CA: Sage.

