

Perceptions Towards the Elderly Among the Thai Working-Age Population: A Structural Equation Modeling Analysis

YOON, Y.^{a*}, WITVORAPONG, N.^a AND POTHISIRI, W.^b

^a*Faculty of Economics, Chulalongkorn University, 254 Phayathai Road,
Pathumwan, 10330, Bangkok, Thailand*

^b*College of Population Studies, Chulalongkorn University, 254 Phayathai Road,
Pathumwan, Bangkok 10330, Thailand*

ABSTRACT

As Thailand is rapidly aging, understanding intergenerational relationships and how to mitigate intergenerational conflicts becomes an increasingly critical issue. Using a Structural Equation Modeling approach and a nationally representative dataset collected in 2011, this paper investigates how the Thai working-age population views the elderly. A unique feature of the paper is the construction of latent variables of “positive” and “negative” perceptions to capture intangible attitudes towards the elderly based on a Confirmatory Factor Analysis with modification indices. Drawing from the conflict perspective on aging, the paper finds that positive perception about the elderly among the working-age population is strongly correlated with age and income, but diminishes as the number of elderly individuals in the same household increases, while negative perception is neither affected by age nor contact with the elderly, yet it decreases with education and income. Interestingly, modernization diminishes both the positive and negative perceptions. In general the Thai working-age population has a favorable view about the elderly, but this study illustrates that there is still room for improvement. Progress towards the reduction of intergenerational conflicts can be made through an expansion of education and a stimulation of economic activities, which in turn generate income. The government should be more firmly committed to integrating aging issues into national school curricula, formally promoting an understanding across generations.

Keywords: Aging population; Perception of elderly; Social identity; Conflict theory on aging; Modernization; Structural equation modeling.

JEL Classification: D69, J14, J19.

*Corresponding author: Email : yong.y@chula.ac.th

INTRODUCTION

The Thai population is aging rapidly, with the share of individuals aged 60 and older having reached 16% in 2015; the figure is projected to increase to almost one-third in a few decades (Knodel *et al.*, 2015). In fact, the majority of Thai older adults are unable to support themselves financially. According to the National Statistical Office Thailand, only 7.5% of the elderly population in 2011 had a pension and about 16% were classified as below the poverty line in 2012. The implication is that the elderly would not be able to rely solely on personal savings but would have to also tap into other sources for support, namely intergenerational transfers and government assistance (Witvorapong, 2015).

Responsibilities towards wellbeing of the elderly are projected to fall increasingly on the shoulders of the working-age population (Knodel *et al.*, 2013; Knodel *et al.*, 2015). Parents need to be cared for by adult children and the pension system requires contributions from people currently in the workforce. As a result, intergenerational conflicts may arise, which would consequently diminish wellbeing of the elderly, decrease the willingness to continue with financial and non-financial support by the working-age population, and altogether shape how different generations live with and understand each other (Bernstein *et al.*, 2000). The most common label for intergenerational conflicts is “ageism”. Loosely defined as the process of stereotyping and discrimination due to age, it is theorized to engulf complex interactions among three interconnected elements: beliefs and stereotypes in the society, personal prejudicial attitudes, and a display of discriminatory practices (Butler, 1969). Ageism can take a positive or a negative form, as long as unequal treatment is involved (Hagestad & Uhlenberg, 2005).

In Thailand, there have been signs of intergenerational conflicts and/or a weakening of filial piety. Despite traditions of gerontocracy, it has been found that Thai younger adults are more strongly associated with negative attitudes towards the elderly than their American counterparts (Sharps *et al.*, 1998). It has also been found that expectations towards support from Thai adult children have declined over time (Knodel *et al.*, 2013) and that the probability that the Thai elderly receive attention from their children is higher if they possess more wealth, which implies the existence of a quid-pro-quo type of exchange (as opposed to altruism) (Witvorapong, 2015). The Thai government has put forth a long-term National Plan for Older Persons (2002-2021), and placed among key priorities the promotion of positive attitudes towards the elderly, considered as part of the active and valued aging process (National Commission on the Elderly, 2002). The progress in the implementation of the Plan is being benchmarked and existing studies have shown that attitudes towards the elderly among Thai adults indeed worsen over time (Prachuabmoh *et al.*, 2008).

In an attempt to motivate a further deepening of intergenerational ties, this paper investigates how Thai adults aged 18-59 think about the elderly. Based on a nationally representative survey, this paper uniquely distinguishes between “positive” and “negative” perceptions that working-age individuals have towards the elderly. It also explores different theories on aging, testing whether certain demographic, economic and sociological factors influence perception about the elderly in Thailand using a Structural Equation Modeling (SEM) approach.

THEORIES AND HYPOTHESES ON AGING

Ageism is usually categorized under the conflict perspective of aging, which regards society as a discriminatory institution that benefits certain groups at the expense of others. It is rooted in the fact that the elderly are dependent on people of younger groups in the physical, social, economic or psychological domains (Baltes, 1995) and old-age dependency is seen as an unexpected disturbance (Thorson, 2000). It is also reinforced by a shift in the way society views the elderly over time. Old age, once seen as a source of wisdom that could be passed on from generation to generation, is now associated with vulnerabilities and frailties (Brocklehurst & Laurensen, 2008).

In this section, three theories under the conflict perspective are discussed, namely the modernization theory, the social identity/age stratification theory and the contact theory. Common to all three is the fact that age determines how an individual is treated and classified. Each theory offers a different analytical lens and explanation as to why intergenerational conflicts occur or how they may be mitigated, providing empirically testable hypotheses. The section ends with the identification of other variables that have been shown consistently to induce ageism in the literature; they offer additional hypotheses.

Modernization theory

According to the modernization theory, older persons can be perceived to be of lower status and importance in modern societies. As the society transitions from an agricultural and handcraft economy into a manufacturing and industrial economy, the status of the elderly worsens. In an agricultural economy, where extended families are common, each individual in the family has a clearly defined role and is able to contribute economically. The modernization of productive technologies changes how families are formed and function. Nuclear families become a norm and people become more individualistic. Younger labor is required (and preferred) in the automated production process, thereby relegating the elderly, whose skills are no longer needed, into a lower socioeconomic rank (Cowgill & Holmes, 1972; Palmore & Manton, 1974; Eyetsemitan *et al.*, 2003; Basford & Thorpe, 2004; Palmore, 2004). The result is a poorer perception towards the elderly - now regarded as a burden.

Hypothesis 1: Based on the modernization theory, it is hypothesized that people living in industrial/urban areas have an unfavorable perception towards the elderly, compared to those living in an agricultural/rural area.

Social identity/age stratification theory

The social identity theory, otherwise known as the age stratification theory, suggests that people are stratified by age, just as they are by race, gender and life experiences, and form their social identities in accordance with it (Weigert *et al.*, 1986; Brewer & Gardner, 1996). Here, social identity is defined as “a personal realization for a social group that individuals belong” (Hogg & Abrams, 1988), where each social group comprises people with the same social classification who then “self-categorize” into the group spontaneously (Turner *et al.*, 1987). The implication of identifying oneself with a certain group is that people may assess their own age group more

positively than others (Tajfel & Turner, 1979) or may alienate other age groups through an in-group bias process, which creates a wedge between the generations (Butler, 1969). The literature suggests that younger generations are more likely to perceive older generations as different and are more likely to demonstrate ageism whereas older generations hold a more positive attitude towards their contemporaries (Slotterback & Saarnio, 1996; Chasteen *et al.*, 2002; Kite *et al.*, 2005; Rupp *et al.*, 2005; Allan & Johnson, 2009). It follows that, as people age and become closer to the older age group, they are more likely to be sympathetic towards the elderly and become less “ageist” (Musaiger & D’Souza, 2009).

Hypothesis 2: Following the social identity/age stratification theory, it is hypothesized that age is positively related to a positive perception towards the elderly.

Contact theory

The contact theory argues that intergenerational conflict is a result of the lack of high-quality interactions between younger and older generations (Allport, 1954). Such interactions can complete the missing information about the elderly that the younger generation may have, which forms the basis for their discrimination (Pettigrew & Tropp, 2006) and facilitate a better understanding between the generations (Hagestad & Uhlenberg, 2005; Gilbert & Ricketts, 2008).

It is noteworthy that evidence on the contact theory is mixed. Kimuna *et al.* (2005), Hall and Batey (2008) and Voogt *et al.* (2008) all confirm the contact theory, asserting that direct contact and experience with older persons can improve attitudes about aging, counter negative stereotypes and result in a more positive perception about the elderly. On the contrary, Happell (2002) and Brown *et al.* (2008) observe some negative perception among geriatric nurses, following direct contact with older people. Bernardini *et al.* (2008) and Allan and Johnson (2009), on the other hand, find that living with an older person, which is likely to entail frequent contact, is not associated with a more positive perception towards the elderly, but instead leads to a higher level of anxiety about aging. The fact the literature offers inconclusive evidence leaves room for further investigation.

Hypothesis 3: In accordance with the contact theory, it is hypothesized that the number of older people a working-age individual is in contact with is related to his/her perception towards the elderly.

Control variables: personal characteristics

Three personal characteristics, namely gender, education and income, are additional control variables in the model and provide three more hypotheses for the study. These variables are selected because they have been identified as determinants of perceptions towards the elderly, based on a synthesis of existing studies.

Gender

The impact of gender on one’s perception towards the elderly is mixed. Ivester and King (1977), Arnold-Cathalifaud *et al.* (2008) and Hughes *et al.* (2008) report a statistically insignificant

effect of gender on one's perception towards the elderly. On the other hand, Bernardini *et al.* (2008), Cherry and Palmore (2008) and Allan and Johnson (2009) find that gender matters; in particular, men tend to exhibit less favorable attitudes towards older people and fewer positive ageist behaviors than women.

Hypothesis 4: It is hypothesized that gender influences one's perception towards the elderly.

Education

Education arguably provides a more emphatic understanding about aging, which leads to a positive attitude towards the elderly. It has been found that people with higher years of schooling have a more favorable perception towards elderly (Thorson *et al.*, 1974).

Hypothesis 5: It is hypothesized that education influences one's perception towards the elderly.

Income

Income (and social class) can impact one's perception about the elderly. Presumably, the higher the income, the better one can accommodate needs of the elderly, and the less one feels that older people are a burden. A positive association between income and one's positive perception towards the elderly has been found by Thorson *et al.* (1974) and Ivester and King (1977).

Hypothesis 6: It is hypothesized that income influences one's perception towards the elderly.

DATA, METHOD AND RESULTS

Data source

Data used in this study are from the nationally representative 2011 Survey of Knowledge and Attitudes on Elderly Issues, conducted by the National Statistical Office (NSO) – Thailand. Based on the working-age population, defined as those between the ages of 18-59, the survey is unique and comprehensive, containing information on personal characteristics and multiple questions on opinions and attitudes that the sample had towards the elderly (defined as those aged 60 and over in Thailand). A stratified three-stage sampling method was used, resulting in the final sample of 9,000 observations (NSO, 2011).

Empirical model

A Structural Equation Modeling (SEM) approach is used. The SEM comprises two components: the measurement component, which constructs 'unobserved' latent variables, including the working-age population's "positive" and "negative" perception towards the elderly, and the structural model component, which analyzes relationships between selected covariates and perception towards the elderly. The structural equation model is used to test all hypotheses in the previous section.

Measurement: (unobserved) attitudes towards the elderly

The 2011 Survey of Knowledge and Attitudes on Elderly Issues contains a set of subjective statements about the elderly. The respondents had the option to disagree or agree with each statement, or could simply express their uncertainty. The statements can be categorized into two groups, depending on how they were phrased. “Positive” statements refer to those that were favorably worded with reference to the elderly and “negative” statements to the opposite.

Using a confirmatory factor analysis (CFA) and the maximum likelihood estimation method, two latent variables are constructed in light of the fact that attitudes towards the elderly are not directly observed and difficult to measure. The first latent variable represents the extent to which working-age individuals in the sample had a positive perception about the elderly. The second latent variable represents the extent to which individuals in the sample had a negative perception.

Statements about the elderly in the survey are shown in Table 1. According to the top panel, the majority of the sample (82.57%-94.36%) agreed with the positive statements. The bottom panel demonstrates that the majority (36.30%-88.39%) disagreed with the negative statements. Altogether, the table suggests that Thai working-age adults have a generally positive view of the elderly. These descriptive statistics are consistent with a qualitative investigation by Knodel *et al.* (2013), where the Thai populace has been found to exhibit values of filial piety.

Table 1 also contains eigenvalues and alpha values, associated with each statement, that are used to construct the latent variables. The latent variable on positive perception towards the elderly is based on the positive statements. The overall alpha is 0.832, which exceeds 0.70, the minimum-value standard commonly used in the literature. The latent variable on negative perception is drawn from the negative statements and the overall alpha is 0.753, which also exceeds 0.70.

Table 1. Statements about the Elderly used to Construct Latent Variables (N = 9,000)

Code	Statements (% that “disagree”, “not sure”, “agree”)	Eigenvalues	Alpha
“Positive” statements about the Elderly in the Questionnaire			
a76	Older people have useful experiences (8.48%, 4.89%, 86.63%)	3.97959	0.825
a78	Older people set good examples for later generations (5.16%, 4.59%, 90.26%)	0.96917	0.807
a79	Older people deserve preferential treatment (5.49%, 5.77%, 88.74%)	0.79826	0.806
a80	Older people can contribute to the community and the society (4.81%, 5.88%, 89.31%)	0.73665	0.806
a81	Older people should be respected (4.99%, 5.01%, 90.00%)	0.62522	0.806
a82	Older people are useful to the society (3.29%, 6.72%, 89.99%)	0.52743	0.813
a83	Older people should be taken care of (3.16%, 2.49%, 94.36%)	0.48842	0.813
a85	Older people are custodians of culture (4.76%, 6.52%, 88.72%)	0.45573	0.821
a87	Older people should have an important role in the society (6.88%, 10.56%, 82.57%)	0.41954	0.833

Table 1 : (Cont.)

“Negative” statements about the Elderly in the Questionnaire			
a70	Older people are outdated (51.40%, 11.96%, 36.64%)	3.12000	0.721
a71	Older people are boring (63.59%, 11.80%, 24.61%)	1.28514	0.702
a72	Older people complain too much (37.23%, 11.04%, 51.72%)	1.01119	0.729
a73	Older people belong in nursing homes (86.39%, 6.60%, 7.01%)	0.79034	0.736
a74	Older people belong in temples (88.39%, 5.36%, 6.36%)	0.69138	0.741
a75	Older people are not particularly useful or productive (76.59%, 9.33%, 14.08%)	0.62389	0.725
a77	Older people are a burden to their family (59.19%, 8.66%, 32.16%)	0.53934	0.740
a84	Older people are unnecessarily argumentative (63.97%, 13.99%, 22.04%)	0.47341	0.739
a86	Older people are difficult to please (36.30%, 17.04%, 46.66%)	0.46531	0.736

Note: “Disagree”, “Not sure”, “Agree” were coded as “-1” “0” and “1” respectively.

It should be noted that some of the above statements may be discarded from the analysis. The CFA literature suggests that the threshold with which factors should be meaningfully included in the construction of a latent variable is when the eigenvalue is above 1.0 (Hoyle & Panter, 1995). Nevertheless, all the statements in Table 1 are included, regardless of their eigenvalues, but, in order to address explanatory deficiencies of some of the statements, modification indices are generated based on correlations among the statements themselves and subsequently used to model the covariance of the error terms (Jackson *et al.*, 2009). All parameter estimates for the CFA for the latent variables are statistically significant at the 5% level.

The correlations among responses on the positive and the negative statements are shown in Tables 2 and 3 respectively. Both tables show that the correlations among the statements are quite high, which reinforce the use of modification indices.

Table 2. Correlation Matrix for Positive Statements

Variables	a76	a78	a79	a80	a81	a82	a83	a85	a87
a76	1								
a78	0.4187	1							
a79	0.3475	0.5359	1						
a80	0.3446	0.4891	0.5064	1					
a81	0.3306	0.4541	0.5287	0.5213	1				
a82	0.5213	0.3641	0.3586	0.3870	0.4259	1			
a83	0.3038	0.3684	0.3994	0.3849	0.4280	0.5418	1		
a85	0.2837	0.3152	0.3020	0.2949	0.3257	0.3792	0.3765	1	
a87	0.2207	0.2538	0.2601	0.3070	0.2454	0.2901	0.2874	0.3398	1

Table 3. Correlation Matrix for Negative Statements

Variables	a70	a71	a72	a73	a74	a75	a77	a84	a86
a70	1								
a71	0.4956	1							
a72	0.3963	0.4576	1						
a73	0.2186	0.3006	0.1659	1					
a74	0.1848	0.2525	0.1228	0.5172	1				
a75	0.3028	0.3516	0.2314	0.3371	0.3590	1			
a77	0.2078	0.2734	0.1462	0.2187	0.1867	0.3011	1		
a84	0.1847	0.2597	0.1289	0.2354	0.2112	0.2226	0.3050	1	
a86	0.2439	0.2898	0.3678	0.1151	0.1075	0.1993	0.2175	0.2869	1

Structural model and results

Descriptive statistics of relevant covariates

Based on the literature review, certain characteristics of a working-age individual influence his/her perception towards the elderly. They include (1) residential location, (2) age, (3) the number of older people in the household, (4) gender, (5) education and (6) income. The first three characteristics address the modernization theory, the social identity/age stratification theory and the contact theory respectively. The final three characteristics refer to covariates that have proved to be empirically associated with attitudes towards the elderly in the literature. Descriptive statistics of these characteristics are provided in Table 4.

Table 4. Descriptive Statistics of Relevant Covariates (N = 9,000)

Variable description	Frequency (%)	Theory on aging
Location of residence (region)		
1 = Bangkok	1,000 (11.11%)	Modernization
0 = Urban, outside of Bangkok	2,000 (22.22%)	
-1 = Rural	6,000 (66.67%)	
Age (a2)		
18-19	455 (5.06%)	Social identity/age stratification
20-24	687 (7.63%)	
25-29	897 (9.97%)	
30-34	1,039 (11.54%)	
35-39	1,291 (14.34%)	
40-44	1,333 (14.81%)	
45-49	1,108 (12.31%)	
50-54	1,126 (12.51%)	
55-59	1,064 (11.82%)	

Table 4 : (Cont.)

No. of older people in the household (a19)		
0	5,757 (63.97%)	
1	2,206 (24.51%)	Contact
2	999 (11.10%)	
3	37 (0.41%)	
4	1 (0.01%)	
Gender (a1)		
1 = Male	4,178 (46.42%)	Empirical observation
0 = Female	4,822 (53.58%)	
Education (a3)		
None	158 (1.76%)	
Primary school	3,477 (38.63%)	
Middle school	1,399 (15.54%)	
High school	1,183 (13.14%)	Empirical observation
Vocational certificate	601 (6.68%)	
High vocational certificate	706 (7.84%)	
Bachelor degree	1,389 (15.43%)	
Master degree and higher	85 (0.94%)	
Others	2 (0.02%)	
Monthly income (a17) (in Thai Baht)		
<3000	286 (3.18%)	
3000-4999	904 (10.04%)	
5,000-9,999	2,765 (30.72%)	
10,000-14,999	2,052 (22.80%)	Empirical observation
15,000-19,999	1,187 (13.19%)	
20,000-24,999	790 (8.78%)	
25,000-29,999	315 (3.50%)	
At least 30,000	701 (7.79%)	

Results: Relationships between perception towards the elderly and covariates

Two structural models are estimated: one for the positive perception towards the elderly and the other for the negative perception. The results are presented in two ways, as path diagrams and in the table format. Figures 1 and 2 show causal relationships between the latent variables (positive and negative perception, respectively) and the covariates in Table 4. To save space, variable names are used instead of the full variable description. The right half of each path diagram represents the relationships of interest in the paper; figures on the arrows that link the covariates to the latent (perception) construct are SEM standardized parameter estimates. The left half shows relationships between the latent variable and each of the subjective statements that have been used to produce it, as discussed in Table 1.

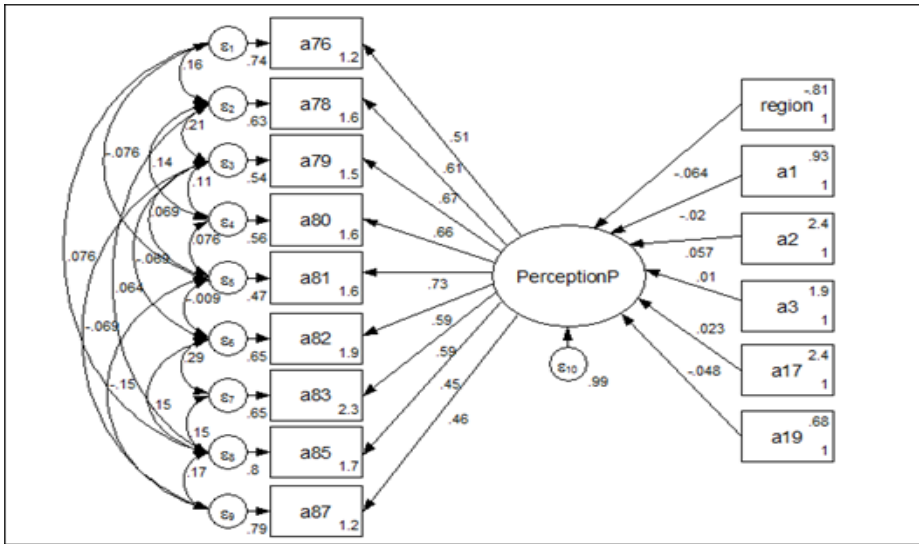


Figure 1. Structural Model of Positive Perception (Standardized Solution; N = 9,000)

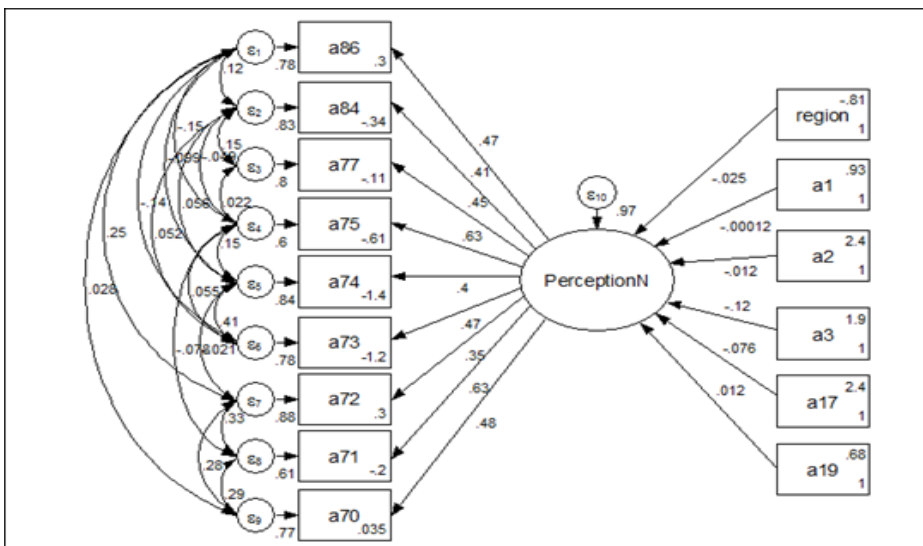


Figure 2. Structural Model of Negative Perception (Standardized Solution; N = 9,000)

Results from the structural models are also presented in Table 5. The root mean squared errors of approximation (RMSEAs) are less than 0.05, which together with the likelihood ratio (LR) chi-square statistics, indicate that the models provide a good fit.

Table 5. Standardized Parameter Estimates from Structural Models on Positive Perception and Negative Perception towards the Elderly (N = 9,000)

Covariates	Positive Perception	Negative Perception
Location of residence (region)	-0.064*** (0.012)	-0.025** (0.013)
Age (a2)	0.057*** (0.012)	-0.012 (0.014)
No. of older people in the household (a19)	-0.048*** (0.012)	0.012 (0.012)
Gender (a1)	-0.020 * (0.012)	0.001 (0.012)
Education (a3)	0.014 (0.014)	-0.117 *** (0.015)
Income (a17)	0.023 * (0.013)	-0.076 *** (0.014)
LR test	$\chi^2(58) = 115.11$	$\chi^2(56) = 243.21$
RMSEA	0.010	0.019

Note: Standard errors in parenthesis; * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The six hypotheses on aging are tested against parameter estimates in Table 5. The covariate ‘region’, which measures whether one lives in an urban/industrialized area, influences negatively both the positive and the negative perceptions of the working-age population towards the elderly. The negative coefficient of the covariate under the negative perception model is in stark contrast with the modernization theory, captured by hypothesis 1. The results suggest that the relationship between the level of modernization and how the elderly are regarded by younger generations is more complex than what is proposed in the theory. A probable explanation is that the degree of modernization experienced in certain parts of Thailand today is so substantial that the comparison between working-age adults and older adults becomes more evident. It is possible that, with a clearer realization of inter-generational differences, working-age adults in urban areas are more opinionated, positively or negatively, on elderly issues than their rural counterparts. In a modernized urban society, some working-age adults may feel that the elderly do not deserve a preferential treatment as they are no longer economically productive while others may feel sympathetic towards the elderly, who are often regarded as vulnerable; the ideas of ageism and anti-ageism may be promoted simultaneously amidst the waves of modernization.

The coefficient on age (a2) is positive and statistically significant for the positive perception model, but it is not statistically significant, albeit negative, under the negative perception model. The estimates give credence to the social identity/age stratification theory, addressed under hypothesis 2. They suggest that older working-age adults are more likely to have a positive perception towards the elderly than younger working-age adults.

The contact theory, captured by hypothesis 3, is rejected in the sample, as the coefficient on the number of older individuals in the household (a19) is negative and statistically significant under the positive perception model and is not statistically significant under the negative perception model. As the number of older people in the household increases, working-age

adults are less likely to have a favorable perception about the elderly. One plausible explanation is that working-age adults with older people in the same household may exhaust too much of their mental resources on providing care for their co-resident older people and therefore may have a lesser degree of tolerance/empathy for the elderly in general. Another explanation is that, consistent with Barrientos *et al.* (2003), working-age adults with responsibilities to older people may feel that their limited resources are being misplaced and could be more fruitfully spent on the younger generation, as an investment into older individuals yields a smaller return to the household.

The estimated coefficients on the other covariates are consistent with the literature. According to the positive perception model, gender (a1) seems to influence one's perception towards the elderly, lending support, albeit only at the 10% significant level, to hypothesis 4. In particular, female working-age adults tend to regard the elderly more favorably than male working-age adults. Education (a3) is negative and statistically significant under the negative perception model, suggesting that working-age adults with more education are less likely to have a negative attitude about the elderly, perhaps because they better understand the aging process. Higher income (a17) seems to induce a lower degree of age discrimination in general, positively associated with having a positive perception towards the elderly at the 10% level and negatively associated with the negative perception at the 1% level. The coefficients on education and income confirm hypothesis 5 and hypothesis 6 respectively.

CONCLUDING REMARKS AND DISCUSSION

Using a Structural Equation Modeling (SEM) approach and a nationally representative and unique dataset, this paper examines how the working-age population in Thailand regards the elderly. It constructs latent variables of "positive" perception and "negative" perception to capture attitudes towards the elderly, which are intangible, based on a Confirmatory Factor Analysis with correlation-based modification indices. In particular, drawing from the conflict perspective on aging, the paper identifies covariates that may influence both positive and negative attitudes towards the elderly.

The results are largely consistent with the literature. It is found that positive perception towards the elderly is strongly correlated with age, supporting the social identity/age stratification theory; older Thai working-age adults are less likely to demonstrate signs of ageism than their younger counterparts (Kite *et al.*, 2005; Rupp *et al.*, 2005; Allan & Johnson, 2009). Positive perception is also correlated with income, which may reflect the availability of resources that they have to accommodate needs of the elderly. However, it diminishes as the number of elderly individuals in the same household increases. This stands in contrast with the contact hypothesis (Allport, 1954), yet it is consistent with some studies in the literature that observe a negative perception towards the elderly in a frequent-contact scenario (Happell, 2002; Brown *et al.*, 2008). On the other hand, negative perception towards the elderly is neither affected by age nor by contact with the elderly. It however diminishes with education and income, implying that having better knowledge or awareness about aging issues and/or larger resources to accommodate the needs of the elderly can reduce the likelihood that a working-

age individual has a negative attitude towards the elderly. Finally, the paper addresses the modernization theory, but finds that the phenomenon is much more complex than envisaged by the theory. In particular, relative to a rural, less modernized area, living in an urban, more modernized area is associated strongly with having both a positive and negative perception towards the elderly. It is possible that living in a more capitalistic environment makes working-age people more opinionated about the elderly in general and the effect swings into both directions.

There are limitations in the study. First, only cross-sectional data are used, so it is unknown whether attitudes towards the elderly have changed over time (Knodel *et al.*, 2013) and if there are competing macro-level trends that should also be captured in the analysis. Second, some important theories are left out from the analysis, due primarily to lack of data. Examples include the exchange hypothesis and the demonstration hypothesis (Witvorapong, 2015), whereby having one's own children impacts how a working-age adult behaves towards his/her parents in particular and the elderly in general.

However, despite these limitations, the study contributes to the literature, not only methodologically through the SEM approach but also with policy implications that its results entail. More specifically, the study illustrates that, while data suggest that the working-age population in Thailand has a favorable view about the elderly, there is room for improvement. Based on statistically significant covariates in the model, progress towards the reduction of intergenerational conflicts can be made through an expansion of education and a stimulation of economic activities (which in turn generate income). This recommendation is consistent with the National Plan for Older Persons (2002-2021), where the government expresses the intention to integrate aging issues into national school curricula (National Commission on the Elderly, 2002), although actionable strategies have yet to be formulated (Prachuabmoh *et al.*, 2008). The paper provides an additional motivation for the government to concretize the plan and to be committed to promoting an understanding across generations.

ACKNOWLEDGEMENTS

This research was funded by the Ratchadapisek Sompoch Endowment Fund (2016), Chulalongkorn University (Grant agreement number: CU-59-065-AS). The authors would like also to acknowledge the research assistance of Chanipun Chatrungrueangchai.

REFERENCES

- Allan, L. J., & Johnson, J. A. (2009). "Undergraduate attitudes toward the elderly: the role of knowledge, contact and aging anxiety." *Educational Gerontology*, Vol. 35 No. 1, pp. 1-14.
- Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Arnold-Cathalifaud, M., Thumala, D., Urquiza, A., & Ojeda, A. (2008). "Young people's images of old age in Chile: exploratory research." *Educational Gerontology*, Vol. 34 No. 2, pp. 105-123.
- Baltes, M. M. (1995). "Dependency in old age: gains and losses." *Current Directions in Psychological Science*, Vol. 4 No. 1, pp. 14-19.

- Barrientos, A., Gorman, M., & Heslop, A. (2003). "Old age poverty in developing countries: contributions and dependence in later life." *World Development*, Vol. 31 No. 3, pp. 555-570.
- Basford, L., & Thorpe, K. (2004). *Caring for the older adult*. Cheltenham: Nelson Thornes.
- Bernstein, D.A., Clarke-Stewart, A., Penner, L.A., Roy, E.J. & Wickens, C.D. (2000) *Psychology* (5th Ed.). Florence, KY: Cengage Learning.
- Bernardini Zamberini, D. A., Moraru, M., Hanna, M., Kalache, A., & Macias Nuñez, J. F. (2008). "Attitudes toward the elderly among students of health care related studies at the University of Salamanca, Spain." *Journal of Continuing Education in the Health Professions*, Vol. 28 No. 2, pp. 86-90.
- Brewer, M. B., & Gardner, W. (1996). "Who is this "we"? Levels of collective identity and self representations." *Journal of Personality and Social Psychology*, Vol. 71 No. 1, pp. 83-93
- Brocklehurst, H., & Laurenson, M. (2008). "A concept analysis examining the vulnerability of older people." *British Journal of Nursing*, Vol. 17 No.21, pp.1354-1357.
- Brown, J., Nolan, M., Davies, S., Nolan, J., & Keady, J. (2008). "Transforming students' views of gerontological nursing: realising the potential of 'enriched' environments of learning and care: A multi-method longitudinal study." *International Journal of Nursing Studies*, Vol. 45 No. 8, pp. 1214-1232.
- Butler, R. N. (1969). "Age-ism: another form of bigotry." *The Gerontologist*, Vol. 9 No.4, pp. 243-246.
- Chasteen, A. L., Schwarz, N., & Park, D. C. (2002). "The activation of aging stereotypes in younger and older adults." *The Journals of Gerontology: Psychological Sciences*, Vol. 57B No. 6, pp. 540-P547.
- Cherry, K.E., & Palmore, E. (2008). "Relating to older people evaluation (ROPE): a measure of self-reported ageism." *Educational Gerontology*, Vol. 34 No. 10, pp. 849-861.
- Cowgill, D. O., & Holmes, L. D. (1972). *Aging and modernization*. New York: Appleton-Century-Crofts.
- Eyetsemitan, F., Gire, J.T., Khaleefa, O., & Satiardama, M.P. (2003). "Influence of the crosscultural environment on the perception of aging and adult development in the developing world: A study of Bahrain, Brazil and Indonesia." *Asian Journal of Social Psychology*, Vol. 6 No.1, pp. 51-60.
- Gilbert, C.N., & Ricketts, K.G. (2008). "Children's attitudes toward older adults and aging: a synthesis of research." *Educational Gerontology*, Vol. 34 No. 7, pp. 570-586.
- Hagestad, G.O., & Uhlenberg, P. (2005). "The social separation of old and young: a root of ageism." *Journal of Social Issues*, Vol. 61 No. 2, pp. 343-360.
- Hall, K. W., & Batey, J. J. (2008). "Children's ideas about aging before and after an intergenerational read-aloud." *Educational Gerontology*, Vol. 34 No. 10, pp. 862-870.
- Happell, B. (2002). "Nursing home employment for nursing students: valuable experience or a harsh deterrent?" *Journal of Advanced Nursing*, Vol. 39 No. 6, pp. 529-536.
- Hogg, M. A., & Abrams, D. (1988). *Social identifications: asocial psychology of intergroup relations and group processes*. London: Routledge.
- Hoyle, R. H., & Panter, A. T. (1995). Writing about structural equation models. In R. H. Hoyle (Ed.), *Structural equation modeling: concepts, issues, and applications*. Thousand Oaks, CA: Sage.
- Hughes, N. J., Soiza, R. L., Chua, M., Hoyle, G. E., Macdonald, A., Primrose, W. R., & Seymour, D. G. (2008). "Medical student attitudes toward older people and willingness to consider a career in geriatric medicine." *Journal of the American Geriatrics Society*, Vol. 56 No. 2, pp. 334-338.

- Ivester, C., & King, K. (1977). "Attitudes of adolescents toward the aged." *The Gerontologist*, Vol. 17 No. 1, pp. 85-89.
- Jackson, L., Gillaspay, J. A., & Pure-Stephenson, R. (2009). "Reporting practices in confirmatory factor analysis: An overview and some recommendations." *Psychological Methods*, Vol. 14 No. 1, pp. 6-23
- Kimuna, S.R., Knox, D., & Zusman, M. (2005). "College students' perceptions about older people and aging." *Educational Gerontology*, Vol. 31 No. 7, pp. 563-572.
- Knodel, J., Kespichayawattana, J., Wivatvanit, S., & Saengtienchai, C. (2013). "The future of family support for Thai elderly: views of the populace." *Journal of Population and Social Studies*, Vol. 21 No. 2, pp. 110-132.
- Knodel, J., Teerawichitchainan, B., Prachuabmoh, V., & Pothisiri, W. (2015). The situation of Thailand's older population: an update based on the 2014 Survey of Older Persons in Thailand. Population Studies Center Research Report 15-847. Population Studies Center, Institute for Social Research, University of Michigan.
- Kite, M. E., Stockdale, G. D., Whitley, B. E., & Johnson, B. T. (2005). "Attitudes toward younger and older adults: an updated meta-analytic review." *Journal of Social Issues*, Vol. 61 No. 2, pp. 241-266.
- Musaiger, A.O., & D'Souza, R. (2009). "Role of age and gender in the perception of aging: a community-based survey in Kuwait." *Archives of Gerontology & Geriatrics*, Vol. 48 No. 1, pp. 50-57.
- National Statistical Office (NSO). (2011). Survey on knowledge and attitudes on elderly issues, 2011. Bangkok: National Statistical Office (in Thai).
- National Commission on the Elderly. (2002). The Second National Plan for Older Persons (2002-2021). Bangkok: Thailand (in Thai).
- Palmore, E. (2004). "Research note: ageism in Canada and the United States." *Journal of Cross-Cultural Gerontology*, Vol. 19 No.1, pp. 41-46.
- Palmore, E., & Manton, K. (1974). "Modernization and status of the aged: international correlations." *Journal of Gerontology*, Vol. 29 No.2, pp. 205-210.
- Pettigrew, T. F., & Tropp, L. R. (2006). "A meta-analytic test of intergroup contact theory." *Journal of Personality and Social Psychology*, Vol. 90 No. 5, pp. 751-783.
- Prachuabmoh, V., Chayovan, N., Wongsith, M., Siriboon, S., Bangkaew, B., & Milintangul, C. (2008). A report on monitoring and evaluating the Second National Plan for Older Persons (B.E. 2545-2564). College of Population Studies, Chulalongkorn University (in Thai).
- Rupp, D. E., Vodanovich, S. J., & Crede, M. (2005). "The multidimensional nature of ageism: construct validity and group differences." *The Journal of Social Psychology*, Vol.145 No. 3, 335-362.
- Sharps, M.J., Price-Sharps, J. L., & Hanson, J. (1998). "Attitudes of young adults toward older adults: evidence from the United States and Thailand." *Educational Gerontology*, Vol. 24 No. 7, pp. 655-660.
- Slotterback, C. S., & Saarnio, D.A. (1996). "Attitudes toward older adults reported by young adults: Variation based on attitudinal task and attribute categories." *Psychology and Aging*, Vol. 11 No. 4, pp. 563-571.
- Tajfel, H., & Turner, J. C. (1979). "An integrative theory of intergroup conflict." *The Social Psychology of Intergroup Relations*, pp. 33-53.
- Thorson, J. (2000). *Aging in a Changing Society*. New York, NY: Taylor & Francis.

- Thorson, J. A., Whatley, L., & Hancock, K. (1974). "Attitudes toward the aged as a function of age and education." *The Gerontologist*, Vol. 14 No. 4, pp. 316-318.
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: a self-categorization theory*. New York: Basil Blackwell.
- Voogt, S. J., Mickus, M., Santiago, O., & Herman, S.E. (2008). "Attitudes, experiences, and interest in geriatrics of first-year allopathic and osteopathic medical students." *Journal of the American Geriatrics Society*, Vol. 56 No. 2, pp. 339-344.
- Weigert, A.J., Teitge, S., & Teitge, D. (1986). *Society and identity: toward a sociological psychology*. Cambridge: Cambridge University Press.
- Witvorapong, N. (2015). "The relationship between upstream intergenerational transfers and wealth of older adults: evidence from Thailand." *Journal of Population Research*, Vol. 32 No. 3, pp. 215-242.