

Gender Role Attitudes and Values toward Caring for Older Adults in Contemporary China, Japan, and South Korea: Evidence from a Cross-sectional Survey

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The twenty-first century witnessed dramatic changes in family structure, demographics, and values in East Asian societies. However, little is known about how gender role attitudes influence values toward caring for older adults among contemporary East Asian societies. By using individual-level data from the 2012 China General Social Survey, the 2012 Japan General Social Survey, and the 2012 Korean General Social Survey, this study sheds light on how adult children (aged 20-60) think about caring for older adults in a context of changing family structure, demographics, and social norms. Binary logistic regression estimation results reveal that, first, compared with Japan, traditional filial piety was less eroded in China and South Korea. Second, gender role attitudes play a significant role in adult children's values toward caring for older adults, especially among Japanese adult children; maintaining traditional gender role attitudes would intensify adult children's familial filial piety. Third, compared with men, women are less likely to prefer individual and family as caregivers for their older parents.

Keywords: Ageing, Values toward caring for older adults, Gender role attitudes, China, Japan, South Korea

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Introduction

Over the past decades, East Asian societies have undergone dramatic changes in social, demographic, family structure, and cultural values. All these changes have raised the question of whether/how the family values and cultural expertise of East Asian societies will be affected. A significant number of studies focusing on subjective attitudes have found that, as modernization theory suggested (Burgess 1960; Goode 1963; Burgess 1960; Cowgill 1974, 1986), perceptions of caring for older adults in Asian countries are changing as a result of modernization, urbanization, unprecedented declining fertility rates, and longer life expectancies with increasingly ageing populations (Iwai 2019; Lee and Choe 2018; Yi 2013; Yasuda et al. 2011). As more education and employment opportunities are offered to women, the twenty-first century also witnessed an ideational change of traditional gender role attitudes. Several recent studies have shown that improvements to women's educational and occupational opportunities have led to diffuse attitudes toward gender roles in Asian countries (Iwai 2019; Lee and Choe 2018; Hu and Scott 2016; Haruki 2006; Chang 2010; Yu 2009; Tu and Chang 2000) and public opinion on how care should be organized (Lee 2016; Broek and Morita 2017). While a systematic understanding of the effects of gender role attitudes on values toward caring for older adults in East Asia societies is still lacking. Our study contributes to the burgeoning literature by providing new insights into the influence of gender role attitudes on current perceptions of eldercare in East Asia.

China, Japan, and South Korea are perfect examples. The three East Asian countries provide a more precise and comprehensive means of examining the influence of modernization theory and gender assumptions hidden beneath cultural norms. There are both similarities and differences among the three societies. On one hand, the stages and paces of modernization in Japan, South Korea, and China caught up with one another in a regionally sequential pattern. On the other hand, the three countries shared a common normative environment grounded in Confucianism (featured as patriarchy, seniority, and male dominance). Eldest sons are expected to shoulder the responsibility of caring for their elderly parents, while historically the abstract ethic of filial piety has been translated into concrete day-to-day caregiving tasks performed by the eldest son's wife (that is, the daughter-in-law). This traditional ideal of Confucian filial piety model requires: (1) a family's eldest son to marry and bring in a daughter-in-law for

childbearing and eldercare; (2) more children to enable co-residence of two/three generations; (3) sons to provide financial support while daughters-in-law provide assistance with tasks of daily living; and (4) daughters-in-law to be willing to or have no other option but to be secondary to her husband (Ochiai and Joshita 2014; Lee 2005; Long and Harris 2000).

Today, however, the above prerequisites for an ideal Confucian filial piety model have been greatly challenged by the drastic economic, social, demographic, and value changes. According to the latest statistics released by the United Nations, East Asia encompasses countries with some of the lowest fertility rates in the world (South Korea and Japan), the most aged country (Japan), and the fastest ageing country in the world (South Korea) (UNESCAP 2017). Moreover, the share of women in the labor force and female educational attainment have changed dramatically in the past decades: the percentage of women in salaried jobs in Japan increased from 73.97% in 1991 to 91.15% in 2019, in South Korea, this percentage rose from 58.90% in 1991 to 77.58% in 2019, and in China, this percentage increased drastically from 26.56% in 1991 to 51.98% in 2019 (World Bank 2019). The above statistics suggest that eldercare as a ‘natural extension’ of the duty of daughters-in-law can no longer be sustained. Embodied by both Confucian ideology and egalitarian gender role attitudes, the “working and caring” burden and value ambivalence experienced by East Asian societies are unprecedented. Traditional care providers—women with substantial socioeconomic resources and egalitarian gender role perception—may be increasingly incapable of fulfilling their former functions, which may lead to renegotiation of care provided to ageing parents in East Asian families.

By using individual-level data from the 2012 China General Social Survey (CGSS), the 2012 Japan General Social Survey (JGSS), and the 2012 Korean General Social Survey (KGSS), this study extends prior research by elaborating on the dynamic scenarios in China, Japan, and South Korea consistent with the following research questions: (1) How, and to what extent, have values toward caring for older adults been diminished or eroded in contemporary China, Japan, and South Korea? (2) Are there any differences in the values toward caring for older adults for the respondents with different demographics, family structure, and gender role attitudes in the three countries? (3) How, and to what extent, are gender role attitudes associated with values toward caring for older adults in China, Japan, and South Korea? We addressed these issues using a binary logistic regression model. We examined the effects of demographic features, family structure, and gender role attitudes on values toward caring for older adults among adult children

(aged 20-60) in China, Japan, and South Korea. Both values toward caring for older adults and gender role attitudes were measured directly using identical survey questions. To the best of our knowledge, the current study is the first attempt to identify the relationship between gender role attitudes and values toward caring for older adults among the three countries using the latest compatible data.

Literature Review

Values Toward Caring for Older Adults: Trends in Cross-Country Research

Values toward caring for older adults, also known as filial responsibility and filial responsibility expectations, is conceptualized as a general societal attitude toward adult children's duty to provide assistance to their ageing parents and to maintain contact with them (Lee, Netzer and Coward 1994; Iecovich 2018). Historically, family has been the main welfare institution for older persons. Adult children and other family members make up the primary caregivers for older people in need of help with activities of daily living (ADLs)—bathing and showering, grooming, eating and feeding, or using the toilet—or those needing assistance with instrumental activities of daily living (IADLs)—cooking, housecleaning, shopping, money management, or medication.. Over the past decades, although family members still constitute the primary caregivers of the older people, data across the globe reveals that the norm of caring for older adults has been weakened and is being “crowding out” by modernization changes and public provisions. Nowadays, most people perceive care for older people to be the responsibility of the government and society (Lee 2016; Yoon 2014).

Over the years, scholars have examined determinants of eldercare under different social contexts. According to previous studies, determinants of values toward caring for older adults can be divided into four categories: (1) modernization factors, (2) needs and resources of the elderly and their children, (3) demographic factors, and (4) cultural norms and ideological factors.

The well-established modernization and ageing theories have provided the main platform for the debate on the changes in family support for older people in both industrialized and developing countries. According to the argument of modernization theory, as industrialization spreads, underdeveloped countries would eventually transition from traditional to

modern modes, similar to the Western conjugal family model (Goode, 1963). The notion was first proposed by Burgess (1960) in his analysis of five Western societies (the United Kingdom, the United States, France, Italy, and the Netherlands), which revealed concerns about the decline of family support for older people and the demise of large families. In the 1970s, Cowgill (1974, 1986) refined modernization theory by conducting a cross-cultural comparative analysis of 15 different countries at various development paces. However, later empirical studies have shown that although intergenerational relationships are affected by modernization, the changes are not uniform in the direction of weaker ties as modernization theory expected. For example, the Role of Service Systems and Intergenerational Family Solidarity (OASIS) research project found no evidence of a substantial “crowding out” of family help; instead, it found “mixed responsibility,” referring to a combination of family and formal help and support, in societies with well-developed service infrastructures (Motel-Klingebiel, Tesch-Roemer and Von Kondratowitz 2005). Over the past decades, the debate on whether formal caregiving substitutes, complements, or parallels the informal care provided by family has been substantial. The hierarchical substitution model (Cantor and Brennan 2000) and the complementary/task-specific model of care (Litwak 1985) are the two major approaches to understanding the relationship of formal care provided by public institutions and informal care provided by family. The two models imply that state versus filial piety is a continuum rather than a dichotomy; the relationship between public and private care is complementary rather than competing.

A great number of models for how adult children fulfill filial piety based on the needs and resources of their family have been proposed and tested. For example, in the hierarchical compensation model, which indicates that there is a hierarchy of preferred caregivers in families based on the norms of filial obligation and beliefs about gender (Lin et al. 2003; Wolf and Soldo 1997), sons are regarded as the main providers, while daughters-in-law shoulder more responsibilities over daughters in caring for parents(-in-law) in old age (Sung 2013). The external resources model suggests that the power in negotiating the family division of labor is determined by the relative resources of family members (Ross 1987), and siblings with a higher education level provide financial support instead of assistance with activities of daily living (ADLs). The reciprocity model posits that the amount of help respondents provide to their parents is based on their parents' past investment, such as schooling and financial transfers (Kelley and Thibaut 1978; Gouldner 1960).

Demographic factors may have different effects on values toward caring for older adults. Previous studies have found considerably diversity in generations, gender, and geographic regions help structure various family values associated with filial piety. For example, Hu and Scott (2016) found that Chinese women born after 1978 show the least support for patrilineal beliefs. Additionally, a study by Knodel and Ofsteda (2002) found a high education level decreased intergenerational support in Japan, South Korea, and Taiwan, while such association has not been found in China (Pimentel and Liu 2004; Zhang 2004). In terms of place of residence, several studies indicate that the co-residence rate is higher in Japan and South Korea's urban areas (Knodel and Ofstedal 2002; Tsuya and Martin 1992), but higher in rural areas of China (Chu, Xie and Yu 2011; Zhang 2004). In terms of gender differences, studies indicate women are more likely to assist with care provision tasks (Kramer 1995). The time-available hypothesis (Condran and Bode 1982; Ross 1987), the socialization/ideology hypothesis (Condran and Bode 1982; Ross 1987), the external-resources hypothesis (Blood and Wolfe 1960; Condran and Bode 1982), and the specialization-of-tasks hypothesis (Horowitz 1985) are the four most popular theories of explaining the gender differences (Finley 1989).

Along with the increased understanding of the diversity of values toward caring for older adults, studies have attempted to investigate the impact of culture and ethnicity on the patterns of support for older people. Cultural norms and ideological factors indicate that familial traditions would reinforces individual values toward caring for older adults. For example, in studies of East Asian societies, the discussion of familial care for older parents is often associated with filial piety (Ikels 2004; Chen and Adamchak 1999; Sung 1995), which is a concept that originated in Confucianism. The inter-generational solidarity model of caregiving argues that a society with a strong sense of morality or religious beliefs seems to embrace the value of elder care across age, gender, and socioeconomic backgrounds (Bengtson and Oyama 2010; Cruz-Saco 2010). The dual filial piety model proposed by Yeh and Bedford (2003) emphasizes the two essential filial piety attributes that have been ignored by previous studies, namely, authoritarian filial piety (AFP), which is guided by obedience to role obligations based on the family hierarchy, and reciprocal filial piety (RFP), which originates from the genuine affection that is rooted in intimacy and the quality of the parent-child relationship. By observing the ratio of co-residence, many quantitative studies that focus on Asian countries verified the above models: unlike Western societies, Asian countries continue to be characterized by a high degree of

co-residence (Maeda 1997), and family is the primary source of support for ageing family members (Levande, Herrick and Sung 2000; Koyano 2003). Several studies of some familialistic welfare regimes in Mediterranean countries also found modernization and public care policies may not ultimately crowd out family solidarity (Attias-Donfut, Ogg and Wolff 2005).

However, by reviewing prior literature, we found that minimal comparative data have been reported on how values toward caring for older adults are shaped in terms of individual agency, structured social relations, and gender role attitudes. The above studies underplay the hidden gender assumptions underpinned by Confucianism.

Gender Role Attitudes

Gender role attitudes, also known as gender ideology, sex role attitudes, gender-related attitudes, and gender egalitarianism (Davis and Greenstein 2009; Legge and Misra 1998), are one of the pivotal dimensions of ideology that is internalized by individuals through socialization. It represents the underlying concept of an individual's level of support for a division of paid work and family responsibility (Lin et al. 2003; Ross 1987). Each society has its own cultural expectations of specific ideology and family responsibilities, with layered sets of gendered constraints (Ho 2020).

Gender role attitudes have been measured on a scale from traditional/conservative to egalitarian/liberal. Traditional/conservative gender role attitudes suggest the conventional gendered role division, that is, women should be caretakers while men should be breadwinners. Egalitarian/liberal gender role attitudes support equal participation of men and women in work and family role (Katz-Wise, Priess and Hyde 2010; Legge and Misra 1998). According to Davis and Greestein (2009), the items used to measure gender role attitudes include the following six dimensions according to many population-based survey designs: (1) the primacy of the breadwinner role, (2) the belief in a separate gendered sphere, (3) working women and relationship quality, (4) wife/motherhood and the feminine self, (5) household utility, and (6) the acceptance of male privilege.

Extensive studies have been conducted on the predictors and consequences of gender role attitudes, and both longitudinal and trend studies have suggested that gender role attitudes learned in socialization process influence division of household labor (Hu and Kamo 2007; Lavee and Katz 2002). Cross-national studies have found that less-educated, older, rural, married women are more likely to endorse traditional gender role attitudes

and perform the majority of household labor without feeling that it is unfair (Lee and Choe 2018; Nordenmark 2004; Fuwa 2004; Batalova and Cohen 2002; Greenstein 1996). Several studies suggest that gender role attitudes have a moderate effect on the division of household work. For example, higher-educated, younger, urban, unmarried men are positively associated with egalitarian gender role attitudes, as education and urbanization provide exposure to egalitarian values and experiences (McDermott and Schwartz 2013; Calvo-Salguero, García-Martínez and Monteoliva 2008), and men holding egalitarian gender role attitudes would perform a greater bulk of the housework (Lachance-Grzela and Bochard 2010; Ridgeway and Correll 2004; Moore and Vanneman 2003; Gershuny and Sullivan 2003; Fan and Marini 2000; Coltrane 2000; Coverman 1985). Still, an in-depth examination of the moderating effect of gender role attitudes on values toward caring for older adults has yet to be produced.

Why Gender Role Attitudes Matter in Eldercare

Today, the importance of gender must not be ignored in family research. As Hu and Scott (2006, citing Therborn, 2004) states, “understanding family values means understanding sex and power in a particular cultural setting.” Change in gender role attitudes is one of the fundamental drivers for understanding intergenerational relationships (Lee and Choe 2018, p. 5). Caregiving as a gendered experience has made an ideal eldercare inevitably feminine (Climo 2000; Finley 1989). A substantial number of empirical studies have found meaningful associations between traditional gender role attitudes and caregiving for elderly parents (e.g., Sung 2018; Lin and Yi 2013; Zhan et al. 2011; Long and Harris 2000; Berardo, Shehan, and Leslie, 1987; Ross 1987; Coverman 1985).

Eldercare as “woman’s work” is more dominant in East Asia. Historically, gender role attitudes in China, Japan, and South Korea have been deeply influenced by Confucian traditions, which clearly define the roles of women and men in the family. Women are expected to be in charge of the “inside” domestic and care work, while men are expected to undertake the “outside” social/political non-domestic work. Both quantitative and qualitative studies have found positive associations between traditional gender role attitudes and filial piety in China, Japan, and South Korea. For example, Chappell and Kusch (2007) draw on the work of Miller (2004) and Wang (2004) to argue that with no public services, adult children in China, most notably women, are urged to support their older parents. Lee (2005, p. 166) emphasized that

although the Korean family resembles the nuclear family structure, in terms of actual activities, the Confucian family tradition still has a strong influence on women. On the basis of a very fine qualitative analysis, Long and Harris's (2000, p. 33) study of Japan suggested that societal gender expectations place different demands on men and women, which influence the way caregivers judged by themselves and others: men are rarely recognized for becoming caregivers.

Over the past decades, perceptions of caring for older adults and gender roles have become increasingly diffuse in East Asian countries. Assumptions about who will be the main caregiver are now openly questioned. By using general social survey data, both Lee (2016), Thijs van den Broek and Makiko Morita (2017) have emphasized that beliefs about gender roles play an important part in values regarding caring for older adults. For example, based on attitudes towards filial support, gender, and work, Thijs van den Broek and Makiko Morita (2017) presented an insightful analysis of Japanese filial support: women, the young, and the highly educated support a "gender egalitarian low family responsibility ideal" which refers to the mere expectation of financial support from children regardless of gender of seniority, while men, older persons, and people with lower levels of education favor a "patriarchal high family responsibility ideal" in which they expect family, especially women, to perform caretaking for elders.

Motivated by the current scholarship on gender role attitudes and values toward caring for older adults, we believe that in order to understand the contemporary versions of values toward caring for older adults in East Asia, it is necessary to include gender role attitudes in the theoretical framework.

Hypotheses

This study aims to fill the aforementioned gaps by testing the below hypotheses.

Hypothesis 1 (demographic difference): *Older (H1a), male (H1b), less-educated (H1c), rural adult children (H1d), and adult children with relative limited economic resources (H1e) are associated with a traditional individual and family eldercare preference.*

Hypothesis 2 (family structure difference): *Married adult children (H2a) and adult children with more than one child (H2b) are associated with a traditional individual and family eldercare preference.*

Hypothesis 3 (gender role attitudes difference): *More egalitarian/*

liberal gender role attitudes of adult children is associated with a traditional individual and family eldercare preference, after controlling for respondents' family structure and demographic features.

Hypothesis 4 (moderate effect of gender role attitudes): *Young(H4a), female(H4b), more educated(H4c), urban(H4d), unmarried(H4e) and no children(H4f) adult children with egalitarian/liberal gender role attitudes are associated with a government/society-oriented eldercare preference.*

Data and Methodology

Data

China, Japan, and South Korea are chosen because the three countries provide a more precise and comprehensive means of examining the influence of modernization factors and cultural norms. Although the three societies share a traditional family value rooted in Confucian culture, the stages and paces of modernization in Japan, South Korea, and China caught up with one another in a regionally sequential pattern in 2012. Based on a previous study (Stockermer and Sundström 2016), four modernization proxies are used to measure the stages and paces of modernization in China, Japan, and South Korea: regional per capita GDP, women's labor force participation rate, population density, and share of employment in agriculture, industry and services. First, the regional per capita GDP of Japan, South Korea and China in 2012 was \$48603.477, \$25466.761 and \$6316.918 respectively. Second, women's participation rate in the labor force of Japan, South Korea, and China in 2012 was 79.285%, 69.643% and 75.404% respectively. Third, population density of Japan, South Korea, and China in 2012 was 347.073, 529.359 and 148.349 respectively (per sq.km of land area). Fourth, in 2012, the share of employment in agriculture, industry, and services in Japan was 3.87%, 25.27%, and 70.86% respectively; accordingly, share of employment in agriculture, industry, and services in South Korea was 6.13%, 24.58%, and 69.29% respectively; while the share of employment in agriculture, industry, and services in China was 33.6%, 30.3%, and 36.1% respectively (World Bank, 2012). Apparently, in terms of modernization stages, Japan ranks first as the leading goose, South Korea ranks second as a member of the "Four Asian Tigers," and mainland China ranks third as the latecomer in 2012. Thus, the three countries provide a more precise and comprehensive means of examining the influence of modernization factors and cultural norms.

As mentioned before, the data sets used in this study are the CGSS, JGSS, and KGSS data collected in 2012. The CGSS, which was launched in 2003, is the earliest continuous, national, representative survey project run by an academic institution in mainland China. The JGSS Project is a Japanese version of the original General Social Survey (GSS) project conducted by the National Opinion Research Center (NORC), University of Chicago. The KGSS is the South Korean version of the GSS, which also closely replicates the original GSS of the NORC at the University of Chicago. The 2012 wave is selected because it was the most recent wave to include a module of family questions, and it provided the only latest compatible data sets for the three countries. The three data sets provide systematic data on the respondents' demographic information and contain integrated questions to measure individuals' attitudes towards gender roles and caring for older adults. The compatible nationwide surveys allow us to consistently compare the results.

As we intended to examine adult children's values toward caring for older adults, respondents aged between 20 and 60 years of age were selected. A total of 11,766 respondents completed the 2012 CGSS survey, and the response rate was 71.5%; 4,668 respondents completed the 2012 JGSS survey, and the response rate was 58.8%; and 1,397 respondents completed the 2012 KGSS survey, and the response rate was 60%. Respondents aged between 20 and 60 years old were selected as the sample; therefore, a sample of 3,041 respondents was drawn from the Chinese data set, a sample of 2,834 respondents was drawn from the Japanese data set, and a sample of 914 respondents was drawn from the South Korean data set.

Dependent Variable

Values toward caring for older adults. The dependent variable of this study is values toward caring for older adults. Due to data limitation in the 2012 CGSS, the 2012 JGSS, and the 2012 KGSS, we only focus values on instrumental activities of daily living (IADLs). Other forms of values toward caring for older adults (i.e., emotional and financial support, ADLs) are important forms of values toward caring for older adults (Swartz 2009; Brody and Schoonover 1986) but are not the focus of this study.

The dependent variable was measured by the question: "Thinking about elderly people who need some help in their everyday lives, such as help with groceries, shopping, cleaning the house, and doing the laundry, who do you think should primarily provide this help?" The answers were coded into a dummy variable: 1 = individual and families; 0 = government and society. For

TABLE 1
MEASUREMENT OF VALUES TOWARD CARING FOR OLDER ADULTS

Question	Options	Measurement	Survey
Thinking about elderly people who need some help in their everyday lives, such as help with groceries, shopping, cleaning the house, doing the laundry, etc., <i>Who do you think should primarily provide this help?</i>	a. Family members	1= Individual and Families (Option a); 0= Government and Society (Option b, c, d)	CGSS KGSS
	b. Government agencies		
	c. Non-profit organizations (e.g., charitable organizations, religious organizations)		
	d. Private providers of this type of help		
	a. Individual and Families (left side with a minimal value of 1)	If respondent chose value 1, then 1= Individual and Families;	JGSS
	b. Governments (right side with a maximal value of 5)	if respondent chose value 2, 3, 4 and 5, then 0= Government and Society	

Source: 2012 CGSS, 2012 JGSS, 2012 KGSS

the same question, there were four options for the CGSS and KGSS data, and we transformed the option of “family members” into “individual and families,” and transformed the options of “government agencies,” “nonprofit organizations,” and “private providers” into “government and society.” For the JGSS data, since the options were ordered variables, we transformed the option “1” related to “individual and families” into “individual and families,” and the options of “2, 3, 4, and 5” related to “government” into “government and society.” (For the original attitudinal questions, see Table 1.)

Key Predictors and Variables

According to previous studies, predictors of values toward caring for older adults are classified into three categories in this study: demographics variables, family structure variables (reflect resources of family), and gender role attitudes (reflect the underpinning gender assumptions).

Demographic variables. To rule out the potential confounding influence of exogenous demographic characteristics and the possible determinants of eldercare preferences, we included age (continuous variable, ranges from 20-60 years old), gender (male coded as 1), education (with a college degree coded as 1), place of residence (respondents in a rural area coded as 1), and perceived economic status (categorical variable, 1 for “far below the average level”; 2 for “average level”, and 3 for “far above average”). The above

demographics were selected based on aforementioned literature.

Family structure variables. Marriage (bringing in a daughter-in-law) and children (to enable co-residence) are important elements of sustaining filial piety in an ideal Confucian filial piety model. Thus, we selected variables such as marital status (married codes as 1) and the number of children (continuous variable) to measure an individual's family structure.

Gender role attitudes. The most important predictor of this research is gender role attitudes, which is the underlying concept of paid work and family responsibilities that is based on the separate spheres of gender (Davis and Greenstein 2009). According to Davis and Greenstein's research, gender role attitudes generally include six dimensions (Davis and Greenstein 2009), and we selected three of these dimensions. The three dimensions were derived from a set of statements for which the respondents expressed their agreement by answering on a five-point scale from "strongly agree" to "strongly disagree." These three questions reflected respondents' attitudes towards the primacy of the breadwinner role (*The husband's role is to make money, and the wife's role is to look after family*), working women and relationship quality (*It is more important for a wife to help her husband's career than to have one herself*) and the wife/mother role and the feminine self (*Without a doubt, a woman's happiness lies in a marriage*).

We applied a principal component analysis (PCA) (Jolliffe 2011) and obtained a powerful one-factor solution for each data set. In a PCA analysis, one of the most commonly used criteria for solving the number-of-components is the eigenvalue-one criterion, which is also known as the Kaiser criterion (Kaiser 1960). The Kaiser criterion has been recommended by previous studies as especially suitable for a small number of variables with a high accuracy (Stevens 2012). According to the Kaiser criterion, any component that displays an eigenvalue greater than 1.00 accounts for a meaningful amount of variance and is worthy of being retained. For the three data sets, only one factor has an eigenvalue above 1.00. The factors were chosen based on the criteria of a Kaiser-Meyer-Olkin (KMO) value over 0.5 and a significance level for the Bartlett's test below 0.05. The cumulative percent of variance for China's data set is 40.943%. The cumulative percent of variance for Japan's data set is 52.216%. The cumulative percent of variance in the Korean data set is 43.332%. Then, we transformed the selected factor into a new variable, i.e., gender role attitudes. A higher score of gender role attitudes indicating the individual's gender role attitudes more strongly leans towards egalitarianism.

Analytic methods

Stata (Version 14.1; Stata Inc. 2015) was used to analyze data. We used a binary logistic regression to investigate the relationships among individual demographic features, family structure features, gender role attitudes, and values toward caring for older adults. The model first estimated the demographic factors that influenced the values toward caring for older adults in each country and then estimated the influence of family structure and gender role attitudes. To further test the moderation effect of gender role attitudes, the interaction of selected demographic and family structure variables was separately entered into the estimation. Two standard measures, Akaike's information criterion (AIC) and Schwarz's Bayesian information criterion (BIC), were used to compare nested and non-nested models for goodness of fit.

Empirical Results

Descriptive Statistics and Correlations

Table 2 presents the descriptive statistics for the samples in the analysis. What stands out in the table is that approximately 86.74% of the sample of Chinese respondents aged 20-60 years old prefer individual and families to be responsible for eldercare, while this proportion of the sample of Japanese and

TABLE 2
VARIABLES AND DESCRIPTIVE STATISTICS

Variables and Measurement		Mean	Sd	Coefficient	VIF
Dependent Variable					
Values toward Caring for Older Adults (%) (Dummy Variable; Individual and Families=1, Government and Society=0)	China	Individual and Families	86.74		1.00
		Government and Society	13.25		
	Japan	Individual and Families	07.93		1.00
		Government and Society	92.06		
	Korea	Individual and Families	33.92		1.00
		Government and Society	66.08		

Independent variables						
Gender role attitudes (Continuous Variable; The higher the index, the stronger that attitudes lean toward gender equality)		China	0	1	-0.06***	1.08
		Japan	0	1	-0.12***	1.02
		Korea	0	1	-0.05	1.05
Family Structure	Marital Status (Dummy Variable; married=1, unmarried=0)	China	married	98.91	0.00	1.01
			unmarried	10.36		
	Japan	married	70.36	-0.02***	1.02	
		unmarried	29.64			
	Korea	married	67.18	-0.02	1.61	
		unmarried	32.82			
Number of children (Continuous Variable)	China	1.5179	0.8397	0.10***	1.36	
	Japan	1.3920	1.1692	-0.01***	1.69	
	Korea	1.4147	1.114	0.04	2.48	
Demographic variables						
Age (Continuous Variable)		China	43.631	10.024	-0.07***	1.17
		Japan	42.249	11.081	-0.06***	1.33
		Korea	41.66	11.67	0.10***	2.14
Gender (Dummy Variable; Male=1, Female=0)	China	Male	50.51	0.04**	1.02	
		Female	49.49			
	Japan	Male	46.12	0.07*	1.01	
		Female	53.88			
	Korea	Male	45.08	0.07**	1.06	
		Female	54.92			
Education (Dummy Variable; With a college degree=1, Without a college degree=0)	China	With a college degree	20.49	-0.08***	1.08	
		Without a college degree	79.51			
	Japan	With a college degree	50.03	-0.09**	1.07	
		Without a college degree	49.96			
	Korea	With a college degree	35.34	-0.10**	1.32	
		Without a college degree	64.66			
Residence (Dummy Variable; Rural area=1, Urban area=0)	China	Rural area	54.85	0.19***	1.29	
		Urban area	45.15			
	Japan	Rural area	34.23	-0.02***	1.03	
		Urban area	65.77			
	Korea	Rural area	16.74	-0.04	1.08	
		Urban area	83.26			

Perceived economic Status (Categorical Variable; Below average=1, Average=2, Above average=3)	China	Below average	38.05	0.05**	1.01
		Average	53.80		
		Above average	8.2		
	Japan	Below average	39.17	0.04**	1.07
		Average	42.55		
		Above average	18.28		
	Korea	Below average	45.08	-0.02	1.03
		Average	36.21		
		Above average	18.05		

Significance levels: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Source: 2012 CGSS, 2012 JGSS, 2012 KGSS

South Korean respondents are 7.93% and 33.92%, respectively. The mean age of the three samples is 46.6 years, 42.3 years, and 41.7 years for China, Japan, and South Korea, respectively. The proportional distribution of the gender in the three samples are even. The coefficients in Table 2 also show that control variables are correlated with the dependent variables.

Analyses

To better differentiate the influence of various predictors on the values toward caring for older adults, we estimated models by sequentially including the demographic variables, family structure variables, and gender role attitudes variables. The VIF values of the variables were all below 5, which indicated that multi-collinearity will not unduly influence the estimation (for details, please see Table 2). The pseudo R^2 of each model showed that the explanatory power of the variables was divergent among the three countries. Moreover, with the introduction of gender role attitudes, the explanatory power of the model increased. Models 1-9 in Table 3 presents the odds ratio (OR) estimates of the demographic variables, family structure variables and gender role attitudes.

Age. Models 1-3 and models 8-9 suggests a significant age effect on values toward caring for older adults among Chinese and South Korean respondents, one unanticipated finding was that only the results from Korea supported Hypothesis 1a: with every extra ten-year increase in age, the odds of Chinese respondents to choose individual and family as eldercare giver decrease by 15% (OR = 0.985, confidence intervals (CI) = 0.97,0.99), while the odds for South Korean respondents to choose individual and families as eldercare giver increase by 20% (OR = 1.02, CI = 0.99, 1.02). However, for

Japanese respondents, there is no age effect on eldercare preference.

Gender. Interestingly, our results suggest that women display less support for traditional caregiving preference in all three countries. Hypothesis 1b is supported. Models 1-9 indicates the gender effect on values toward caring for older adults is highly significant in all three countries; men are more likely to choose individual and families as caregivers than women, with odds ratio all around 1.5.

Education. No significant differences were found in Chinese and Japanese data sets. But one striking result is that Hypothesis 1c is rejected among Korean respondents. Models 7-9 shows a negative effect of education on values toward caring for older adults for Korea respondents; specifically, the odds of choosing individual and family as a caregiver for respondents with a college degree are higher than respondents without a college degree (OR = 0.64, CI = 0.45, 0.89).

Place of residence. Hypothesis 1d is only supported among Chinese respondents. Differences between rural and urban areas is only significant among the Chinese respondents. Models 1-3 demonstrates the significant effect of place of residence on values toward caring for older adults for the Chinese respondents, the odds for respondents in rural areas of choosing individual and families as a caregiver are about 3 times higher than urbanites (OR = 3.12~2.62, CI = 2.47, 3.94~2.03, 3.38).

Perceived economic status. Hypothesis 1e is supported among Chinese and Japanese respondents. Models 1-3 suggests that perceived economic status is the average level increases the odds of choosing individual and family as a caregiver by about 47% for Chinese respondents (OR = 1.47, CI = 1.15, 1.85). While, for Japanese respondents, Models 4-6 suggested that perceived economic status of an above-average level increases the odds of choosing individual and family as a caregiver by about 57% to 64% (OR = 1.47, CI = 1.15, 1.85).

In terms of the family structure variables (marital status and number of children), Hypothesis 2a is rejected among Korean respondents. Models 8-9 in Table 3 suggests that unmarried respondents in South Korea are more likely to choose individual and families as a caregiver than married respondents (OR = 0.62, CI = 0.40, 0.94). Hypothesis 2b is only supported among Chinese respondents. Models 2-3 in Table 3 illustrate that Chinese respondents with more than one child displayed more traditional attitudes towards eldercare than the Chinese respondents who have no children or one child, and with a one-unit increment in the number of children, the odds for the respondents of choosing individual and families as a caregiver increase

TABLE 3
ODDS RATIO ESTIMATES FROM BINARY LOGISTIC REGRESSIONS OF VALUES TOWARD CARING FOR OLDER ADULTS

	South Korea								
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
	China								
Age	0.985** (-2.74)	0.978*** (-3.79)	0.978*** (-3.80)	0.989 (-1.73)	0.993 (-1.00)	0.992 (-1.04)	1.011 (1.60)	1.020* (2.26)	1.019* (2.15)
Gender (Ref. Female)	1.444*** (3.31)	1.473*** (3.48)	1.472** (3.47)	1.529** (3.02)	1.517** (2.95)	1.467** (2.70)	1.486** (2.75)	1.422* (2.39)	1.436* (2.45)
Education (Ref. Without a college degree)	0.869 (-1.09)	0.897 (-0.84)	0.898 (-0.83)	1.130 (0.84)	1.128 (0.82)	1.148 (0.94)	0.635* (-2.61)	0.638* (-2.56)	0.649* (-2.45)
Residence (Ref. urban area)	3.124*** (9.54)	2.626*** (7.48)	2.619*** (7.36)	0.822 (-1.36)	0.818 (-1.39)	0.803 (-1.51)	0.878 (-0.69)	0.902 (-0.54)	0.881 (-0.66)
Perceived economic status: average (Ref. below average)	1.461** (3.27)	1.473** (3.33)	1.472** (3.33)	1.180 (1.02)	1.214 (1.18)	1.206 (1.14)	1.057 (0.34)	1.083 (0.49)	1.089 (0.52)
Perceived economic status: above average	1.191 (0.87)	1.224 (1.01)	1.225 (1.01)	1.568* (2.35)	1.641* (2.52)	1.641** (2.52)	1.280 (1.23)	1.359 (1.51)	1.369 (1.54)
Marital status (Ref. unmarried)	1.597 (1.04)	1.597 (1.04)	1.599 (1.04)	0.834 (-0.93)	0.834 (-0.93)	0.841 (-0.88)	0.614* (-2.24)	0.614* (-2.24)	0.607* (-2.29)
Number of children	1.331*** (3.29)	1.331*** (3.29)	1.330** (3.27)	0.992 (-0.10)	0.992 (-0.10)	0.976 (-0.30)	1.042 (0.41)	1.042 (0.41)	1.038 (0.38)
Gender role attitudes			0.994 (-0.11)			0.770** (-0.10)			0.894 (-1.54)
Constant	5.485*** (6.11)	3.339* (2.43)	3.344* (2.43)	0.099*** (-7.22)	0.096*** (-7.27)	0.099*** (-7.21)	0.330** (-2.90)	0.286** (-3.19)	0.301** (-3.03)
Observations	3041	3041	3041	2834	2834	2834	914	914	914
Pseudo R2(McFadden)	0.059	0.064	0.64	0.013	0.014	0.021	0.019	0.024	0.026
AIC	2253.16	2244.17	2246.16	1564.71	1567.44	1558.71	1162.29	1160.69	1160.31
BIC	2259.29	2298.35	2306.36	1606.36	1620.98	1618.20	1196.015	1204.05	1208.49

Notes: Ref.: reference group. Significance levels: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Exponentiated coefficients; z statistics in parentheses. Source: 2012 CGSS, 2012 IGSS, 2012 KGSS

TABLE 4
ODDS RATIO ESTIMATES FROM BINARY LOGISTIC REGRESSIONS OF VALUES
TOWARD CARING FOR OLDER ADULTS

Countries	China	Japan	Korea
	Model 1	Model 2	Model 3
Age	0.979** (-3.48)	0.994 (-0.87)	1.020* (2.15)
Gender (Ref. female)	1.455** (3.33)	1.521** (2.88)	1.474** (2.60)
Education (Ref. Without a college degree)	0.886 (-0.91)	1.068 (0.44)	0.643* (-2.46)
Residence (Ref. urban area)	2.633*** (7.28)	0.807 (-1.44)	0.889 (-0.61)
Perceived economic status: average (Ref. below average)	1.472** (3.32)	1.203 (1.12)	1.088 (0.52)
Perceived economic status: above average (Ref. below average)	1.267 (1.17)	1.638* (2.50)	1.378 (1.56)
Marital status (Ref. unmarried)	1.604 (1.03)	0.848 (-0.83)	0.610* (-2.23)
Number of children	1.330** (3.20)	0.966 (-0.42)	1.046 (0.44)
Gender role attitudes	1.046 (0.07)	0.712 (-0.92)	1.269 (0.59)
Age×Gender role attitudes	0.984** (-2.46)	1.003 (0.40)	0.992 (-0.88)
Gender×Gender role attitudes	1.161 (1.34)	1.256 (1.35)	0.915 (-0.59)
Education×Gender role attitudes	1.098 (0.72)	0.672* (-2.35)	1.353+ (1.66)
Residence×Gender role attitudes	1.057 (0.41)	1.027 (0.17)	0.735+ (-1.66)
Marriage×Gender role attitudes	1.533 (0.72)	1.009 (0.04)	1.172 (0.76)
Children×Gender role attitudes	1.100 (1.08)	0.957 (-0.41)	1.053
Constant	3.173* (2.28)	0.099*** (-7.09)	0.283** (-3.14)
Observations	3041	2834	914
Pseudo R2(McFadden)	0.68	0.027	0.032
AIC	2248.45	1561.396	1164.798
BIC	2344.769	1656.587	1241.883

Notes: Ref.: reference group. Significance levels: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Exponentiated coefficients; z statistics in parentheses.

Source: 2012 CGSS, 2012 JGSS, 2012 KGSS

33% correspondingly (OR = 1.33, CI = 1.12, 1.58).

Gender role attitudes. When it comes to gender role attitudes, we have more expected results. Models 3, 6 and 9 in Table 3 investigate the influence of gender role attitudes on values toward caring for older adults; demographic, family structure, and gender role attitudes are all put into the equation. The above results still hold when gender role attitudes included. The relative low AIC and BIC statistics suggests a better model fit than previous models. The effect of gender role attitudes is highly significant ($p < 0.01$) in the Japanese dataset: for Japanese respondents, model 6 indicates respondents with egalitarian/liberal gender role attitudes are associated with 23% reduction in the odds to choose individual and families as a caregiver (OR = 0.77, CI = 0.65, 0.91) (see Table 3). Hypothesis 3 is supported among Japanese respondents.

Moderating effect of gender role attitudes. Examination in Table 4 sheds further light on the effect of gender role attitudes on values toward caring for older adults. Models 1-3 in Table 4 include the interaction of gender role attitudes between age, gender, education, residence, marital status, and children. Model 1 in Table 4 illustrates that both the age and the interaction of age and gender role attitudes are significant ($p < 0.01$), which indicates that the older cohort of Chinese respondents with egalitarian gender role attitudes are more likely to choose government/society as a caregiver (OR = 0.984, CI = 0.973, 0.996). Hypothesis 4a is rejected among Chinese respondents. Model 2 in Table 4 suggests that the interaction of education and gender role attitudes is significant for Japanese respondents ($p < 0.05$), which reveals that respondents with a college degree and hold egalitarian gender role attitudes are more likely to choose government/society as a caregiver (OR = 0.672, CI = 0.48, 0.94). Hypothesis 4a is accepted among Japanese respondents. Interestingly, for Korean respondents, model 3 in Table 4 demonstrate a picture different from China and Japan; respondents with a college degree who hold egalitarian gender role attitudes are more likely to choose individual and family as a caregiver (OR = 1.353, CI = 0.95, 1.9, $p < 0.1$), and South Korean urbanites who hold egalitarian gender role attitudes are more likely to choose family as a caregiver for older adults (OR = 0.735, CI = 0.51, 1.06, $p < 0.1$). Hypothesis 4c and 4d are rejected among Korean respondents.

Robustness Checks

In this section, to control for any unobserved heterogeneity among countries,

TABLE 5
ODDS RATIO ESTIMATES FROM BINARY LOGISTIC REGRESSIONS OF VALUES
TOWARD CARING FOR OLDER ADULTS BY COUNTRY

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	1.001 (0.27)	0.987*** (-4.81)	0.987*** (-4.85)	0.986*** (-4.98)	0.990* (-2.59)	0.988** (-2.95)
Gender (Ref. female)	1.431*** (7.05)	1.502*** (7.67)	1.499*** (7.62)	1.524*** (7.90)	1.467*** (5.15)	1.470*** (5.15)
Education (Ref. Without a college degree)	0.353*** (-18.70)	0.376*** (-16.91)	0.378*** (-16.79)	0.379*** (-16.61)	0.797** (02.75)	0.798** (-2.73)
Residence (Ref. urban area)	0.855** (-3.08)	0.936 (-1.24)	0.925 (-1.47)	0.922	1.438*** (4.78)	1.372*** (4.03)
Perceived economic status: average (Ref. below average)	1.477*** (7.14)	1.277*** (4.30)	1.277*** (4.29)	1.282*** (4.35)	1.256** (2.85)	1.273** (2.99)
Perceived economic status: above average (Ref. below average)	0.843* (-2.06)	0.710*** (-4.03)	0.713*** (-3.98)	0.714*** (-3.95)	1.332* (2.47)	1.358** (2.63)
Marital status (Ref. unmarried)		6.665*** (19.97)	6.685*** (19.99)	6.630*** (19.84)	0.748* (-2.26)	1.488 (0.90)
Number of children		0.853*** (-5.06)	0.848*** (-5.02)	0.849*** (-5.14)	1.202*** (3.93)	1.453*** (4.60)
Gender role attitudes			0.951+ (-1.87)	0.954 (-0.32)	0.945 (-0.30)	1.056 (0.27)
Age×Gender role attitudes				0.998 (-0.76)	0.992* (-2.02)	0.991* (-2.17)
Gender×Gender role attitudes				1.116* (2.01)	1.148 (0.18)	1.159 (1.90)
Education×Gender role attitudes				1.176** (2.73)	0.938 (-0.78)	0.949 (-0.63)
Residence×Gender role attitudes				0.800*** (-4.04)	1.014 (0.18)	1.024 (0.28)
Marital status×Gender role attitudes				1.239* (2.17)	1.234 (1.74)	1.168 (1.14)
Children×Gender role attitudes				0.951 (-1.53)	1.030 (0.62)	1.041 (0.77)
Japan (Ref. China)					0.0112*** (-43.84)	0.328*** (-7.44)
South Korea (Ref. China)					0.063*** (-26.56)	0.151*** (-4.11)
Gender role attitudes×JP						0.839 (-1.61)
Marriage×JP						0.602 (-1.05)

Children×JP	0.683*** (-3.49)					
Gender role attitudes×SK	0.949 (-0.48)					
Marital status×SK	0.469 (-1.54)					
Children×SK	0.903 (-0.86)					
Constant	0.957 (-0.36)	0.439*** (-5.97)	0.446*** (-5.84)	0.441*** (-5.91)	6.4906*** (9.83)	2.863* (2.28)
Observations	6789	6789	6789	6789	6789	6789
Pseudo R ² (McFadden)	0.055	0.107	0.108	0.1113	0.467	0.469
AIC	8876.87	8394.53	8393.032	8366.954	5037.817	5030.479
BIC	8924.632	8455.94	8461.263	8476.123	5160.632	5194.233

Notes: Ref.: reference group. Significance levels: + $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Exponentiated coefficients; z statistics in parentheses.

Source: 2012 CGSS, 2012 JGSS, 2012 KGSS

we merged the three data sets into one. We also created three country dummy variables for China, Japan, and South Korea. Table 5 summarizes the estimation results of the three countries. The very low AIC and BIC statistics of model 5 and model 6 in Table 5 suggests a better model fit than models 1-4. The above results in Tables 3 and 4 still hold in models 1-3 of Table 5 when all the variables are considered. The effect of age is significant in the merged data sets ($p < 0.01$), and the odds of choosing individuals and families as caregivers decrease with age. Male respondents, respondents with a college degree, respondents living in rural areas, respondents who perceive their economic status as being average and above average, and respondents with more children are more likely to choose individual and family to be caregivers. In addition, model 6 suggests that when compared with Chinese respondents, Japanese and South Korean adult children are 0.328 times (OR = 0.328, CI = 0.13, 0.80) and 0.151 times (OR = 0.151, CI = 0.61, 0.37) respectively less likely to choose individual and family as a caregiver. For Japanese respondents, the increment of children is associated with a 31.7% reduction in the odds of choosing individual and family as a caregiver (OR = 0.683, CI = 0.55, 0.85).

Discussion

This study pioneers a consideration of how gender role attitudes influence

East Asian norms and ideals for providing eldercare. Our primary purpose is not to challenge modernization theory, but to put forth some reconsiderations of modernization theory and to uncover the gender assumption underpinning East Asia. As industrialization spreads, the world's family pattern might not eventually converge into that of the Western conjugal family model as suggested by Goode (1963). A comparative analysis between China, Japan, and South Korea helps us create a rough sketch that deviates from the Western pattern: as industrialization, modernity, and Confucian traditions intertwine and co-exist in East Asian societies, care for older parents is no longer a due obligation, but influenced by a combination of factors such as family capacity, economic resources, and cultural norms. Binary logistic regression estimation results revealed both significant dissimilarities and similarities among the three countries.

First, although traditional filial piety remains intact in China, the concept and Chinese families' expectations regarding it have changed in certain ways. The estimation results of our study are consistent with previous studies that argue complex adjustment in family values is occurring in contemporary China (Hu and Scott 2016). On one hand, estimation results of the positive association between the number of children and values toward caring for older adults in China are consistent with the notion that a large family with several siblings would facilitate the sharing of eldercare responsibilities (as the old saying goes, "Yang Er Fang Lao"). It also verified the fact that the lack of public service and welfare provision in China strengthens people's reliance on family caregiving. On the other hand, the estimation results of the negative association between age and values toward caring for older adults in China elaborated, although in general, that Chinese respondents prefer individual and families as a caregiver, but with an increase in age, they tend to modify their expectations towards filial piety (Zhan, Feng and Luo 2008). The ambivalent values towards caring for older adults among Chinese might be explained by the reshaped 4-2-1 family structure and meager welfare provisions: in 2012, although the government had been starting to promote community-based care services to supplement family care, the comprehensive pension and care system has not been fully implemented in China. As the size of the individual household has been shrinking rapidly since the implementation of the one-child policy, a married adults referred to as the "sandwich generation" have to care for four parents and one child, which has put adult children under particular pressure (Wang et al. 2009; Mao and Chi 2011). Thus, understandings of filial piety have been reshaped in the process of the massive social and family structure changes.

Second, as the most modernized economy among the three countries, Japan seems to be taking the lead in transforming their family values compared with China and South Korea. Modernization theory and the “crowding-out” effect of public provisions on private transfers is verified in the Japanese estimation results. Additionally, the main effect and interaction effect of gender role attitudes for the Japanese respondents reveals that respondents with higher levels of education holding a more egalitarian gender role attitudes have greater odds of choosing a government/society-oriented eldercare system. Apparently, economic prosperity and public provision has contributed to a growing rejection of traditional gender role differentiation among the Japanese (Freed, 1990). The year 2012 was the twelfth year for the implementation of Japan’s long-term care insurance (LTCI), which is a result of demographic changes, changing public attitudes toward the care of elderly people, and was a victory of sorts for the modernist and women’s lobbying actions (Makita 2010; Ozawa and Nakayama 2005; Long and Harris 2000). With the objective of socializing care responsibilities and not leave responsibilities to the family (Tsutui and Muramatsu 2007), a comprehensive community-based integrated care system for older people has been established, the use of formal services also increased greatly. Thus, this might explain why the Japanese endorsed a government/society-oriented caring preference.

Third, surprisingly, neither accelerating modernization nor education is undermining filial piety in South Korea, or at least not yet. The patriarchal culture of Korea still strongly influences the attitude toward intergenerational support. This echoes with research based on the 2006 and 2016 KGSS data: Koreans are still conservative and believe that adult children should bear the main responsibility for their ageing parents and the government should be limited in giving aid to the old (Lee and Choe 2018, p.58). So why does filial piety seem relatively resilient to change in Korea? Our data may not allow us to give definitive explanations. One explanation for the continuity of family support in South Korea may be the ongoing efforts conducted by its government since 2000 to respond to new social risks. Following the initiatives of Germany and Japan, South Korea introduced a series of welfare schemes consistent with labor and gender policies to relieve the caregiving burden of women and to ease the growing care needs of older people, for example, the Basic Act for Healthy Families in 2003, the Basic Plan for Low-Fertility and Ageing Society in 2006 and the Long-Term Care Insurance Scheme in 2008. To preserve the virtue of filial piety, the government legislated the following series of legal provisions to encourage families to

support older parents at home: (1) an inheritance tax and income deductions, (2) special housing funds for households with aged parents, and (3) financial allowances and special leave for care for older parents (Park 2015). Meanwhile, a series of work-family reconciliation policies and gender equality laws were strengthened (Peng 2012). These policies may have enabled and encouraged educated Koreans to practice instrumental support for the older people.

Fourth, gender role attitudes play a significant role in adult children's values towards caring for older adults, especially among Japanese adult children, holding liberal/conservative gender role attitudes strengthens adult children's familial filial piety. The most obvious finding to emerge from the analysis is that the influence of gender role attitudes on values toward caring for older adults can be found along the lines of age, level of education, place of residence, and marital status. Echoing previous studies (Lachance-Grzela and Bochar 2010; Ridgeway and Correll 2004), education provides exposure to egalitarian values and intensifies Japanese people's eldercare preference towards government and society. And it is somewhat surprising that in China, the most conservative country among the three, if the older persons hold egalitarian gender role attitudes, they may choose government and society as a caregiver. In addition, much as Esping-Anderson (2009) highlighted that women may be more likely to challenge traditional values than men as women have more to benefit by changing the status quo, our results suggest that the main effect of gender is consistently displayed in the three countries; compared with men, women are less likely to prefer individual and family as eldercare providers in all three countries. However, we also notice that gender role attitudes do not affect Korean adult children's values regarding caring for older adults. What Inglehart and Norris (2013) suggested in their famous "Rising Tide: Gender Equality and Cultural Change around the world" may explain why educated, urban Koreans with liberal gender role attitudes still hold a traditional familial filial piety. According to Inglehart and Norris (2013, p. 9), cultural norm, values, and beliefs also shape the transition to gender equality, when traditional values prevail, women are not only limited by society in terms of opportunities they seek, but also choose to limit themselves. Obviously, intergenerational family traditions entail abundant plasticity to accommodate modernization by adapting to the cultural and socioeconomic context (Takagi, Silverstein and Criminns 2007). Sung's (2018) study of South Korea family also verified that Confucian gender role attitudes have a significant influence on working women's intergenerational reciprocity.

Implications and limitations

Although this study focuses on East Asia, we intended this study to be a humble contribution towards the understanding of contemporary East Asian families in this vast, culturally diverse region. Care for older generations operates at (1) the micro level of new orientation among individual women, (2) the mezzo level of the organization of care, (3) the macro level of care policies, and (4) the structural level of societal care values. Mismatches between these levels may lead to contradictions, internal divisions, and social suffering for social actors. A combination of familism values, the availability of family-based care and the low level of public expenditures on public care programs have all shaped individuals' preferences for public care policies (Calzada and Brooks 2013).

Despite women in East Asian societies having obtained substantial improvements in labor force participation and education attainments, the normative and institutional changes in gender role attitudes do not seem to have kept pace. Women are still exposed to combined pressures of social and cultural norms of caregiving because of the shortages of available long-term care resources and their own sense of family responsibility and gender roles. As post-industrial societies draw an increasing number of women into the labor force, governments have to pay more attention to how to alleviate the tensions between the changes in gender role attitudes and the existing institutional arrangements that continue to emphasize the male-breadwinner/female-housewife family model. It is necessary to reconstruct culturally acceptable services and supportive social work schemes that can reconcile inter-generational value dissonance and shift some of women's care burdens out of the family. A shared responsibility among family members and/or formal services provided by government, society, and the market may help to alleviate the solitary burden of family care. Meanwhile, men should share the responsibility of caring for older adults not simply because "it is fair" but because it is important.

There are several limitations of the current study that should be noted. First, we note that our contemporaneous predictor variables may not capture the characteristics of respondents well since we omitted several variables, such as the number of siblings, the caregiver burden, income, and the residence pattern, as these variables were not distributed sufficiently well in all data sets to produce convergence in our multilevel models. Second, although we conducted a robustness check and the results were consistent

with the present study, our measurement of the dependent variables may merit further examination; due to limitations of the data sets, we can only measure respondents' values toward caring for older adults on IADLs, the findings await future research with better data to measure other important forms of values toward caring for older adults (e.g., financial, emotional or ADLs) and unpack more detailed changes on values toward caring for older adults in contemporary Asia. Finally, we acknowledge that the size of the estimation sample was not equally distributed in the three data sets due to missing data for some important variables. The nature of cross-sectional data limits our ability to make causal inferences between gender role attitudes and values toward caring for older adults. Despite these limitations, this study offers initial insights into the caregiving preferences and the effect of gender role attitudes on people's caring preference in three contemporary East Asian countries that have not been widely studied thus far.

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