

Supplement Article

Does Gender Matter in the Receipt of Informal Care Among Community-Dwelling Older Adults? Evidence from a Cross-National Comparative Study Across the United States, South Korea, and China

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Abstract

Objectives: This study compares patterns of gender difference in the receipt of informal care among community-dwelling older adults across the United States, Korea, and China where family-oriented systems for providing care to older adults are emphasized.

Method: Data came from the 2014 Health and Retirement Study, the 2014 Korea Longitudinal Study of Aging, and the 2015 China Health and Retirement Longitudinal Study. Logistic regression models were used to predict the receipt of informal care by gender. We also examined how the effects of health and living arrangement on the receipt of informal care differ depending on gender.

Results: In the United States and China, older women were more likely to receive informal care than men. However, older Korean women were less likely to receive informal care than men. The effects of health and living arrangement on the use of informal care were moderated by gender in different ways across countries.

Discussion: This study provides evidence that patterns of gender differences in the receipt of informal care vary across the three countries. More attention needs to be paid to the design and implementation of long-term supports and services to address the unique patterns of gender difference in care arrangement in each country.

Keywords: Caregiving, Disability, Gender, Living arrangement

As the share of older adults in the population has increased in East Asia and North America (He, Goodkind, & Kowal, 2016), provision of support for their long-term care needs has become a critical issue for families and society. To provide adequate support for this population, it is important to understand their use of informal and formal health care and the patterns that emerge thereof. Even in societies where formal long-term supports and services are well-developed, older adults with long-term care needs still tend to prefer informal care from families and relatives ra-

ther than professional assistance (Colombo, Llana-Nozal, Mercier, & Tjadens, 2011). In addition, policymakers encourage informal care as a means of reducing the financial burden of formal long-term care (Yoo, Bhattacharya, McDonald, & Garber, 2004). They also promote maximizing self-determination with respect to care arrangements between informal and formal care, depending on the preferences and the situation of the recipient of care (Yeandle, Kröger, & Cass, 2012). Long-term care policies in most Organization for Economic Co-operation and Development

(OECD) countries emphasize the importance of community-based prevention-oriented services, and support the use of informal caregivers to delay the need for institutional services (Moise, Schwarzinger, & Um, 2004). These caregivers play a critical role in determining older adults' quality of life and mortality rates, as well as the public expenditure for long-term supports and services. Understanding the patterns of the actual receipt of informal care, therefore, holds implications for formal home care policies.

The gender of older adults is known to be associated with their patterns of acceptance of informal care. However, previous studies have produced mixed findings. Some have suggested that women face greater difficulties finding help for their daily lives than men, partly because they tend to live longer and with more disabilities, compared to men. Women are also more likely to live alone with limited resources (Chen, Giles, Wang, & Zhao, 2018; Gannon & Davin, 2010; Katz, Kabeto, & Langa, 2000). However, other studies have found no gender differences in obtaining assistance, after controlling for living arrangements and health status (Langner & Furstenberg, 2020; Larsson & Thorslund, 2002). Gender differences in the use of informal care may be affected not only by individual factors but also by such social characteristics as cultural norms regarding care for older adults, and the availability of formal long-term supports and services. It is unclear how contextual and structural factors interplay with the association between gender and access to informal care.

This study compared gender differences in the receipt of informal care for disabled older adults in communities across China, South Korea, and the United States. These three countries place immense value on aging in place (Kaye, LaPlante, & Harrington, 2009; Kwon, 2009; Zhu, 2015) and consider family to be a greater resource for caregiving than social services (Esping-Andersen, 2013; Ochiai, 2009; O'Connor, Orloff, & Shaver, 1999). Despite their shared emphasis on the role of families in providing care for older adults, the selected countries differ in social, cultural, economic, and policy contexts, and this is likely to shape disparate patterns of gender differences in the receipt of care. Cross-national comparisons will offer a deeper understanding of the contextual and structural factors that shape patterns of gender differences in care arrangements.

Cross-National Gender Differences in the Receipt of Informal Care

The receipt of informal care is determined not only by the health status of older adults and the availability of informal care, but also by such various macro-level factors as cultural norms related to caregiving and the availability of formal care (Blomgren, Breeze, Koskinen, & Martikainen, 2012; van Groenou, Glaser, Tomassini, & Jacobs, 2006; Solé-Auró & Crimmins, 2014). All of these factors are closely interrelated with gender, but previous studies have not explored how gender figures into the receipt of care.

It is clear that individuals with more serious functional and cognitive health problems have greater needs for long-term care. Women are known to live longer and have more health problems in old age than men (Crimmins, Kim, & Solé-Auró, 2011; Kim, 2011; Zeng, Liu, & George, 2003). However, greater long-term care needs are not always linked with greater use of care. The living arrangements of older adults are directly related to the availability of informal care. Due to gaps in the life expectancies of men and women, there is a gender difference in informal-care availability, at least by a spousal caregiver. However, the availability of an informal caregiver does not guarantee the actual receipt of informal care. All the factors mentioned above are common in many countries, but the gender gap in the receipt of informal care varies. A focus on the macro-level factors is needed to explain this variation across countries.

First, each society has different expectations associated with gender roles. In some societies, women are socialized with an emphasis on home-centered gender roles. They are less likely to be employed outside the home, are more likely to work in low-paying occupations, are more likely to live in poverty and also do more of their household's domestic work and child-rearing than men do (Denton, Prus, & Walters, 2004). Women's disadvantaged status in society shapes their family relationships and economic resources, and this may contribute to the gender differences in the receipt of care. Older women in a gender-unequal society, for example, may be less likely to receive formal care, especially paid care services from the private sector, due to their limited economic resources. Therefore, older women are more likely to rely solely on informal care than older men (Colombo et al.; Orel, Ford, & Brock, 2004). However, it is still not clear if—and to what extent—this inequality in gender roles affects the receipt of informal care.

Some research has demonstrated that women's kin-keeping roles help them mobilize assistance from family members because their needs are more likely to be visible than men's needs (Kalmijn, 2007; Kim, Birditt, Zarit, & Fingerman, 2019). Specifically, it was found that older Korean and American women are more active in asking for help from family members, and that they receive more informal care than men (Moon & Lee, 2016; Stevens et al., 2012). However, other studies have found that wives are less likely to receive spousal care than husbands (Chen et al., 2018; Glauber, 2017; Noël-Miller, 2010). This may be an important factor in societies where gendered division of domestic labor is more prevalent (Finley, 1989). Older wives in such societies may have more experience with caregiving and thus, may feel more obliged to provide care if they have a frail spouse than husbands who have participated less actively in child-rearing (Bracke, Christiaens, & Wauterickx, 2008). In contrast, if equal participation in domestic labor becomes more common, the gender gap in the receipt of spousal care may decrease.

Gender equalities relating to economic and political power, the gender division of household labor, and labor force participation all vary across China, Korea, and the United States. Research has shown that gender inequality in Korean and Chinese societies is more severe than in the United States (Ji, 2015; OECD, 2017b). Thus, we would expect that the effects of health on receipt of informal care would also differ by gender due to people's resources and roles in family relations. In addition, gender differences in the effects of health on the receipt of informal care may vary across United States, China, and Korea because gender inequalities and expectations of the roles of men and women in family relations differ across these countries.

Cultural norms for intergenerational support may also play a significant role in gender differences in the receipt of informal care, given their relevance to living arrangements. In societies with strong expectations of filial piety, older adults tend to live with—and/or receive care from—their adult children or other relatives when they become frail (Lin & Yi, 2013; Solé-Auró & Crimmins, 2014). Widowed women are likely to benefit disproportionately because, living longer than men, they could have their children as informal caregivers even after they lose their spouses (Kim, 2005; Swartz, 2009; Zhan & Montgomery, 2003). Under the influence of Confucianism, Korean and Chinese societies have emphasized the role of children in providing support to older parents (Ikels, 2004; Sung, 2005). This has influenced care preferences and caregiving behaviors among older adults and adult children (Seok, 2009). In China, particularly, the obligation of adult children to provide care to older parents is enforced by the PRC Elderly Rights and Protection Law (1996). Intergenerational coresidence in old age has been prevalent in maintaining the family function of caring for older adults in Korea (30% of older Koreans over age 65 in 2010) and in China (40% of older Chinese over age 60 in 2011) (Chui, 2007), but intergenerational coresidence is far less common in the United States (13% of Americans aged 65 and older in 2014) (Johnson Jr. & Appold, 2017; Lei, Strauss, Tian, & Zhao, 2015; Statistics Korea, 2011). For older single adults, gender differences in the receipt of informal care may not be salient in monocultural societies with a strong emphasis on the nuclear family, such as Korea and China. However, in societies with less stringent norms of filial and nuclear family piety, women are more likely to live alone in widowhood, which may decrease the availability of informal caregivers and increase the need for (and therefore the use of) formal care (Larsson & Thorslund, 2002).

Further, the availability of public long-term care can lead to gender differences in the receipt of informal care. Previous studies of European countries have found that older adults in countries with fewer home-based services and limited residential care, are more likely to receive only informal care than their contemporaries living in countries with greater home-based services and more generous pensions (Suanet, van Groenou, & Van Tilburg, 2012).

Compared to European countries, formal long-term care support systems in the United States, Korea, and China are relatively less developed. In this respect, the role of informal care in these countries is crucial.

In the United States, public long-term support is mostly limited to low-income families or families who have become low income while paying for formal care (Lehning & Austin, 2010). Each state's commitment to developing long-term care services varies as interstate variances exist in eligibility criteria, payment levels, and amount of expenditure for home- and community-based services (Muramatsu et al., 2007). Although community-based services are available for older adults, service availability significantly varies across communities, and most older Americans with care needs tend to rely on informal caregivers. Ninety-two percent of older adults with at least one limitation in activities of daily living (ADLs) and instrumental activities of daily living (IADLs) receive informal care, while only 13% rely on paid long-term care services (Kaye, Harrington, & LaPlante, 2010).

Korea introduced the National Long-Term Care Insurance (LTCI) in 2007, which covers formal long-term care for adults aged 65 and older, and individuals with geriatric disease (Kwon, 2009). On the basis of the Needs Assessment Committee's evaluation, individuals' eligibility for the LTC services, and the types and extent of services (e.g., institutional, and home-based services) are decided. Although a majority of older adults with disabilities rely on family caregivers, under the LTCI scheme, 7.5% of older adults aged 65 and older received long-term care benefits including home-based and institutional care, and about 23% of older adults with at least one limitation in ADLs and IADLs is estimated to receive home-based care benefits (NHIS, 2017). Additionally, Elderly Care Package Services (ECPS) were implemented in 2007 to supplement the LTCI scheme. The ECPS, a tax-based program operated by a local government, provides home-based care services to those who are not eligible for the LTCI but have moderate long-term care needs and are relatively poor. The ECPS only covers 0.6% of older adults aged 65 and older, due to eligibility criteria for low-income older persons (KOHI, 2018).

In China, a public long-term care system is still in development. Public care services are limited to those with no offspring, no income, and no ability to look after themselves (Wong & Leung, 2012). Most existing public LTC services in China take the form of institutional care rather than home-based care. The Chinese government recently began building infrastructure for professional home-based care and day care facilities, but service facilities are still not widely available across the country, especially in rural areas (UNESCAP, 2016). Although 43% of adults aged 60 and older reported needing long-term care, only 2% used a housework service, and only 0.2% used day care services (National Survey Center, 2014).

Using comparable population-based data, this study examines patterns of gender differences in the receipt of

informal care in the United States, Korea, and China. In this study, we aim to estimate gender differences in the likelihood of receiving informal care among comparable groups of older adults with functional limitations in the three countries, and to examine whether the associations between health status or living arrangements and the receipt of informal care differ by gender. In doing so, our study contributes to further understanding the cross-national patterns of gender differences in the receipt of informal care.

Method

Data

This study used three data sets, which were designed to conduct international comparisons and analyses of health and aging: the 2014 Health and Retirement Study (HRS) for the United States, the 2014 Korean Longitudinal Study of Ageing (KLoSA), and the 2015 China Health and Retirement Longitudinal Study (CHARLS). All three surveys are biennial longitudinal studies of nationally representative samples of middle-aged and older adults living in the community. All three surveys also share comparable measures of socioeconomic characteristics, family structure, and health.

The inclusion criteria for analysis in this study were as follows: (a) individuals aged 50 and older; (b) individuals who live in a community; and (c) individuals reporting at least one limitation in three ADLs (i.e., dressing, eating, bathing; Wallace & Herzog, 1995) or five IADLs (i.e., making telephone calls, preparing meals, shopping, taking medications, and managing money). As a result, our sample consisted of 19.26% ($N = 4,044$) of the total sample in the HRS, 9.31% ($N = 855$) in the KLoSA, and 21.82% ($N = 4,795$) in the CHARLS. In addition, if more than one member of the same household had been picked, we randomly selected only one member and included them in the sample. The final sample of analysis is 3,729 respondents in the HRS, 743 respondents in the KLoSA, and 4,104 respondents in the CHARLS. Missing values were minimal in all three data sets (less than 4%).

Measure

Dependent variables

The dependent variables were whether or not a respondent received help related to ADLs or IADLs, and who helped them most. Assistance received from family members and relatives was categorized as informal care (1 = received informal care, 0 = did not receive informal care). When the sources of help were identified, each survey used slightly different ADL and IADL items and methods for listing helpers. Table 1 in the [Supplementary Appendix](#) provides detailed descriptions of the measures used in identifying informal care in HRS, KLoSA, and CHARLS. If a respondent answered that they had experienced any difficulties in

ADLs or IADLs that lasted more than three months, they were asked who helped them most often with these tasks and their relationship with the helper.

Independent variables

Respondents' gender was a binary variable, with men as the reference group (1 = female). Living arrangements were generated by combining a respondent's marital status, and had three categories: unmarried and living alone, unmarried and living with others, and married. The number of ADL disabilities indicated the number of activities with which the respondent had difficulties (i.e., dressing, eating, and bathing), ranging from 0 to 3. The number of IADL disabilities indicated the number of areas that the respondent had any difficulties with (i.e., using phones, preparing meals, shopping, taking medications, and managing money) and ranged from 0 to 5. The number of chronic conditions was measured by summing up indicators of whether a respondent was ever diagnosed with high blood pressure, diabetes, cancer, lung disease, heart disease, stroke, psychiatric problems, and arthritis. Higher scores represented a greater number of diseases (Freedman & Spillman, 2014).

Covariates

Educational attainment was measured using three categories: less than secondary education, secondary and vocational education, and tertiary education. The number of living children was categorized into four groups: no child, one or two children, three or four children, and five or more children. Proximity of children was measured with a binary variable, with having any child nearby in the reference group (1 = no child living nearby) (Hank, 2007; Silverstein, Cong, & Li, 2006). In the HRS, those with a child who coresided or lived within 10 km were regarded as having any child living nearby; in the KLoSA, this included a child coresiding or living within 30 min (when using public transportation); and in the CHARLS, this included children coresiding or living in the same city or county. Formal care was defined as whether or not a respondent received help related to ADLs or IADLs from professionals and/or someone affiliated with an organization (1 = received formal care, 0 = did not receive formal care).

All measures were harmonized to be comparable across countries. The independent variables and covariates were chosen based on an analytic framework of factors predicting the receipt of informal care among older adults and developed by previous studies (Hu & Ma, 2016; Larsson & Silverstein, 2004; Solé-Auró & Crimmins, 2014).

Analytic Strategy

We first assessed the prevalence of receiving informal care by gender and country, and included descriptive statistics of the study variables. Sources of informal care were further examined by gender and marital status in each country. We also tested significance of differences

in means and proportions of the study variables between men and women. Next, for each country and the receipt of informal care, logistic regression models were computed using a respondent's gender, age, health characteristics (i.e., ADLs, IADLs, and number of chronic diseases), living arrangements, socioeconomic characteristic (i.e., educational attainment), family structure characteristics (i.e., number of living children and having no child living nearby), and whether or not a respondent received formal care. We also tested interactions between gender and health as well as between gender and living arrangements. If any country showed significant interaction effects of gender, the results of estimated probabilities with significance of interactions were represented in graphs. Using the individual-level weights provided in each data set, we computed weighted estimates in all analyses. STATA v.14 was used in the analyses (StataCorp, 2015).

Results

Table 1 shows the descriptive statistics for all study variables. Differences in the characteristics of the samples were observed across the three countries. In the United States, on average, women were older (71.83 years old) than men (69.78 years old). They also had more IADL-related disabilities (female: 1.56, male: 1.24) and chronic conditions (female: 3.35, male: 3.16), and a greater proportion of them received informal and formal care (62.45% and 13.03%, respectively) when compared to men (54.56% and 6.4%, respectively). In Korea, women were older (female: 80.32, male: 67.66), and had more limitations in ADLs (female: 1.08, male: 0.5) and IADLs (female: 3.03, male: 1.91). They also had more chronic conditions (female: 1.96, male: 1.24), but fewer women received informal care (female: 64.8%, male: 75.63%), and more women received formal care than men (female: 17.04%, male: 5.46%). In China, women had fewer limitations in ADLs (0.59) than men (0.77) and were more likely to receive informal care (67.9%) than men (63.29%). There were no gender differences in age, limitations in IADLs, and number of chronic conditions ($p > .05$).

In all three countries, more men lived with their spouse than women. About 90% of Korean men lived with a spouse. In America and China, this number was 63% 78%, respectively. In the United States and Korea, over a third of women lived alone (35.52% and 34.96%, respectively), compared to the approximately 10% of Chinese women who lived alone.

Table 2 elaborates on the sources of informal care in relation to marital status and gender. In all three countries, married men relied mainly on their wives' help, while married women were less likely to receive help solely from their husbands. Among unmarried respondents, older American men and women were more likely to rely solely on children. In China and Korea, older men and women were more likely to receive help from a diverse network

of relatives. In particular, single Korean men utilized help from this network.

The results from the logistic regression (Table 3) indicated significant gender differences in the receipt of informal care after controlling for covariates in all three countries. Models 1, 6, and 11 included only the main effects and covariates. Korean women had 45% lower odds of receiving informal care than men (odds ratio [OR]: 0.55, 95% confidence interval [CI]: 0.32–0.97), whereas American and Chinese women had 44% and 33% higher odds of receiving informal care than men, respectively (OR: 1.44, 95% CI: 1.14–1.81 for American sample, OR: 1.33, 95% CI: 1.06–1.67 for Chinese sample).

The association between living arrangements and the receipt of informal care differed by gender only in the United States (Model 2, OR: 0.44, 95% CI: 0.25–0.79). Figure 1 presents predicted probability of receiving informal care by marital status and living arrangement. Unmarried American women who lived alone (0.42) were more likely to receive informal care than their male counterparts (0.24), whereas the gender gap in the receipt of informal care was smaller among married American men and women (0.79 for both; Figure 1). The relationship between the number of chronic conditions and the receipt of informal care differed by gender in the United States (Model 5, OR: 1.20, 95% CI: 1.05–1.38). Figure 2 graphs this relationship. As the number of chronic conditions increases from 0 to 8, the predicted probability of receiving informal care increases by 17% for American women (0.74 through 0.91), but decreases by 2% for American men (0.77 through 0.75; Figure 2).

The relationship between the number of limitations in ADLs and the receipt of informal care was moderated by gender in China (Model 12, OR: 0.70, 95% CI: 0.53–0.91). As the number of ADL limitations increases from 0 to 3, the predicted probability of receiving informal care increases by 5% for Chinese women (0.80 through 0.84), but shows a higher increase (20%) for Chinese men (0.71 through 0.91; Figure 3). In Korea, there were no moderating effects of gender found in the relationship between the receipt of informal care and living arrangements or health characteristics.

Discussion

This study examined patterns of gender differences in the receipt of informal care in the United States, Korea, and China; additionally, it assessed interactions between gender and living arrangements as well as health status. The findings suggested that patterns of gender differences in the receipt of informal care varied across the selected countries, maybe due to diverse demographic characteristics, cultural traditions, and the availability of public long-term supports and services.

Among the three countries studied, we found that a relatively small proportion of older Koreans had ADL or

Table 1. Sample Subject Characteristics in the United States, Korea, and China

	United States				Korea				China			
	Overall (N = 3,729)	Men (n = 1,475)	Women (n = 2,254)	p	Overall (N = 743)	Men (n = 376)	Women (n = 367)	p	Overall (N = 4,104)	Men (n = 1,425)	Women (n = 2,679)	p
Received informal care (%)	59.03	54.56	62.45	.000	70.86	75.63	64.80	.004	66.31	63.29	67.90	.047
Received formal care (%)	10.16	6.40	13.03	.000	10.56	5.46	17.04	.000	1.34	2.20	0.89	.394
Limitations in ADLs (0-3)	0.98 (0.94-1.02)	0.95 (0.89-1.01)	1.01 (0.96-1.06)	.153	0.76 (0.67-0.84)	0.50 (0.39-0.61)	1.08 (0.94-1.21)	.000	0.65 (0.61-0.69)	0.77 (0.68-0.86)	0.59 (0.54-0.63)	.001
Limitations in IALDs (0-5)	1.42 (1.37-1.48)	1.24 (1.16-1.33)	1.56 (1.49-1.63)	.000	2.40 (2.27-2.53)	1.91 (1.75-2.06)	3.03 (2.86-3.21)	.000	1.80 (1.73-1.87)	1.78 (1.64-1.91)	1.81 (1.73-1.90)	.696
Chronic condition (0-8)	3.27 (3.21-3.33)	3.16 (3.06-3.26)	3.35 (3.27-3.44)	.004	1.56 (1.45-1.66)	1.24 (1.10-1.38)	1.96 (1.82-2.11)	.000	1.72 (1.65-1.78)	1.69 (1.58-1.81)	1.72 (1.65-1.80)	.613
Living arrangement (%)												
Unmarried, living alone	30.95	24.98	35.52	.000	16.93	2.74	34.96	.000	9.50	8.17	10.20	.000
Unmarried, living with others	21.73	12.11	29.08		22.44	8.14	40.60		22.33	13.73	26.86	
Married	47.32	62.91	35.40		60.63	89.12	24.44		68.17	78.09	62.94	
Age	70.94 (70.48-71.40)	69.78 (69.09-70.46)	71.83 (71.20-72.47)	.000	73.24 (72.21-74.26)	67.66 (66.48-68.83)	80.32 (79.31-81.33)	.000	67.92 (67.34-68.50)	68.09 (67.14-69.03)	67.83 (67.10-68.56)	.668
Education (%)												
Less than secondary	25.26	22.58	27.31	.020	68.37	49.37	92.50	.000	94.36	89.83	96.75	.000
Secondary education	34.01	34.04	33.99		20.64	31.41	6.96		4.74	8.53	2.75	
Tertiary education	40.73	43.38	38.70		10.99	19.22	0.54		0.89	1.64	0.50	
Number of children	3.10 (3.01-3.19)	3.07 (2.93-3.21)	3.12 (3.01-3.24)	.566	3.16 (3.02-3.30)	2.56 (2.41-2.72)	3.92 (3.71-4.13)	.000	3.27 (3.20-3.34)	3.01 (2.90-3.12)	3.41 (3.32-3.49)	.000
No child living nearby (1 = No child)	35.44	39.45	32.38	.001	33.87	34.75	32.76	.608	12.04	16.98	9.44	.001

Note: ADL = activities of daily living; IADL = instrumental activities of daily living; Source: 2014 Health and Retirement Study, 2014 Korea Longitudinal Study of Aging, and 2015 China Health and Retirement Longitudinal Study.

Table 2. Distribution of Informal Care by Marital Status and Gender Among Older Adults Aged 50 Receiving Informal Care

Source of informal care	United States			Korea			China		
	Men	Women	<i>p</i>	Men	Women	<i>p</i>	Men	Women	<i>p</i>
Married (%)									
Spouse only	77.85	51.81	.000	82.35	62.90	.000	71.76	59.80	.000
Nonspouse only	3.87	12.57		1.39	19.06		11.59	18.83	
Spouse and nonspouse	18.28	35.62		16.25	18.04		16.64	21.36	
Unmarried (%)									
Children only	80.75	72.60	.007	43.59	63.58	.000	54.44	50.15	.009
Other relatives only	10.39	12.33		51.01	15.97		16.46	8.71	
Children and other relatives	8.86	15.07		5.40	20.45		29.10	41.14	

Note: Source: 2014 Health and Retirement Study, 2014 Korea Longitudinal Study of Aging, and 2015 China Health and Retirement Longitudinal Study.

IADL problems. While approximately 20% of the total samples in the United States and China were included in our sample, only 9% of older Koreans were included in this study. In addition, older Koreans were the most likely to receive informal and formal care (70.86% and 10.56%, respectively). The Chinese sample showed a high rate of receiving informal care (66.31%) but a very low rate of receiving formal care (1.34%). Older Americans were found to be less likely to use informal care (59.03%), but showed a level of community-based formal care use similar to that in Korea. These results likely reflect different cultural norms and the availability of long-term supports and services in these countries. Although we do not directly measure how the existence of public long-term supports and services affects the receipt of informal care, limited access to long-term supports and services may increase older adults' reliance on informal care.

Patterns of gender differences in the receipt of informal care across the three countries presented some similarities regarding major sources of care. In all three countries, married men were more likely to rely on their wives, whereas married women drew from more diverse sources of informal care. For single older adults, children tended to be the main source of informal care in all three countries. This result is consistent with the findings of previous studies (Blomgren et al., 2012; Hu & Ma, 2016). Gender differences in the probability of receiving informal care were found in all three countries, but the direction of the gender effects on the receipt of informal care was not consistent.

In the United States, older women were found to be more likely to receive informal care than men in the multivariate analyses. When we examined the interaction effects between gender and living arrangements, married American men and women did not differ in the probability of receiving informal care. However, unmarried American men were less likely to receive informal care than their female counterparts. Moreover, as the number of chronic illnesses increased, older American men had a lower probability of receiving informal care than older women. Previous studies have found women to be more active in expressing their needs and to have stronger relationships

with their children, which likely helps them receive more informal care than men (Swartz, 2009). Our results suggest that older American men living alone may have more difficulties in finding help for their daily lives, making them more vulnerable to the risk of unmet needs than women. This finding is not consistent with a previous study that focused on the oldest old population in the 1993 Asset and Health Dynamics Among the Oldest Old (AHEAD) study (Katz et al., 2000). As our study included younger cohorts, our findings may suggest that patterns of gender differences in the receipt of informal care differ by age cohorts and change over time.

In contrast to the results for Americans, older Korean women were less likely to receive informal care than older Korean men. Rapid changes in family structures and cultural norms related to filial piety in Korea may explain this result. Given the large gender gap in life expectancy in Korea (OECD, 2017a), older Korean women live much longer than Korean men and spend more time without a spouse. When older Korean women live alone and face dependency, they are more likely to need to solicit help from other family members. However, as Korean society has experienced rapid urbanization and demographic changes, the proportion of older people living with adult children sharply decreased from 75.3% in 1990 to 30.8% in 2010 (Statistics Korea, 1991, 2011). In addition, the current generation of older Koreans, who may value independency in old age more than previous generations, may not be actively seeking help from their children and relatives; a 2016 survey of the Korean population aged 65 and older reported that only 32.6% agreed that family should be solely responsible for taking care of older adults, although 90% answered so in 1998 (Statistics Korea, 2016). Combined with increasing longevity, weakened nuclear family ties, and changing cultural norms for caregiving for older adults, our findings suggest that Korean women may have greater difficulties in meeting their need for care than men.

In China, women had a higher probability of receiving informal care than men. This may be explained by the fact that our Chinese sample skewed relatively young. In our study, older Chinese women tended to have limitations in

Table 3. Odds Ratios From Multivariate Logistic Regression on the Three Countries' Subjects' Receipt of Informal Care

	China (N = 3,972)														
	United States (N = 3,595)					Korea (N = 740)									
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
Female	1.44** (1.14-1.81) Ref.	2.31** (1.41-3.80) Ref.	1.31 (0.95-1.83) Ref.	1.13 (0.80-1.60) Ref.	0.81 (0.50-1.34) Ref.	0.55* (0.32-0.97) Ref.	0.99 (0.19-5.16) Ref.	0.48* (0.26-0.89) Ref.	0.65 (0.28-1.53) Ref.	0.91 (0.42-1.96) Ref.	1.33* (1.06-1.67) Ref.	1.11 (0.54-2.30) Ref.	1.58** (1.20-2.08) Ref.	1.70** (1.16-2.49) Ref.	1.09 (0.74-1.61) Ref.
Unmarried, living alone															
Unmarried, living with others	3.43*** (2.44-4.80)	3.74*** (1.97-7.09)	3.42*** (2.44-4.79)	3.43*** (2.44-4.83)	3.45*** (2.46-4.85)	2.11* (1.17-3.81)	5.80 (0.93-36.33)	2.13* (1.18-3.84)	2.09* (1.16-3.77)	2.04* (1.14-3.65)	2.50*** (1.69-3.68)	2.10 (0.95-4.65)	2.58*** (1.76-3.79)	2.48*** (1.68-3.66)	2.52*** (1.71-3.71)
Married	7.17*** (5.30-9.69)	11.51*** (6.91-19.19)	7.12*** (5.28-9.61)	7.14*** (5.27-9.67)	7.22*** (5.33-9.77)	2.86** (1.54-5.30)	4.78 (0.96-23.91)	2.81** (1.52-5.18)	2.88** (1.56-5.32)	2.86** (1.54-5.32)	4.55*** (3.20-6.47)	3.96*** (2.00-7.85)	4.69*** (3.30-6.65)	4.53*** (3.18-6.44)	4.56*** (3.21-6.49)
ADLs	1.12 (0.97-1.31)	1.14 (0.98-1.33)	1.06 (0.84-1.32)	1.13 (0.97-1.31)	1.14 (0.98-1.32)	0.84 (0.65-1.09)	0.85 (0.66-1.09)	0.76 (0.55-1.05)	0.84 (0.65-1.09)	0.84 (0.66-1.08)	1.27*** (1.13-1.44)	1.27*** (1.12-1.43)	1.61*** (1.29-2.00)	1.27*** (1.12-1.43)	1.28*** (1.13-1.44)
IADLs	3.00*** (2.54-3.51)	3.01*** (2.56-3.54)	2.99*** (2.54-3.51)	2.60*** (2.15-3.15)	3.01*** (2.56-3.53)	1.39** (1.15-1.68)	1.37** (1.14-1.66)	1.40*** (1.16-1.70)	1.45** (1.12-1.86)	1.36** (1.13-1.65)	2.09*** (1.89-2.32)	2.09*** (1.89-2.32)	2.09*** (1.88-2.31)	2.38*** (1.97-2.87)	2.09*** (1.89-2.32)
Chronic conditions	1.08* (1.01-1.16)	1.09* (1.01-1.17)	1.09* (1.01-1.17)	1.09* (1.01-1.17)	0.98 (0.89-1.09)	1.25** (1.06-1.47)	1.24* (1.05-1.46)	1.26** (1.07-1.48)	1.24* (1.05-1.46)	1.51** (1.16-1.95)	1.04 (0.94-1.15)	1.04 (0.95-1.15)	1.04 (0.94-1.15)	1.04 (0.95-1.15)	0.97 (0.83-1.13)
Interactions															
Female x Unmarried, living alone	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Female x Unmarried, living with others	0.87 (0.42-1.80)					0.31 (0.04-2.19)						1.25 (0.51-3.08)			
Female x Married	0.44** (0.25-0.79)					0.62 (0.11-3.59)						1.20 (0.55-2.62)			
Female x ADLs Limitations	1.11 (0.83-1.49)					1.18 (0.84-1.67)						0.70** (0.53-0.91)			
Female x IADLs Limitations			1.29 (0.95-1.75)			0.93 (0.71-1.22)						0.83 (0.66-1.04)			
Female x Chronic conditions					1.20** (1.05-1.38)					0.74 (0.53-1.02)					1.13 (0.93-1.36)

Note: Coefficients are odds ratio, and numbers in the parenthesis are 95% confidence intervals. Covariates and constants are omitted in the table. ADL = activity of daily living; IADL = instrumental activities of daily living. Adjusted for educational attainment, the number of living children, proximity of children, and the receipt of formal care.

*p < .05, **p < .01, ***p < .001. Source: The 2014 Health and Retirement Study, 2014 Korea Longitudinal Study of Aging, and 2015 China Health and Retirement Longitudinal Study.

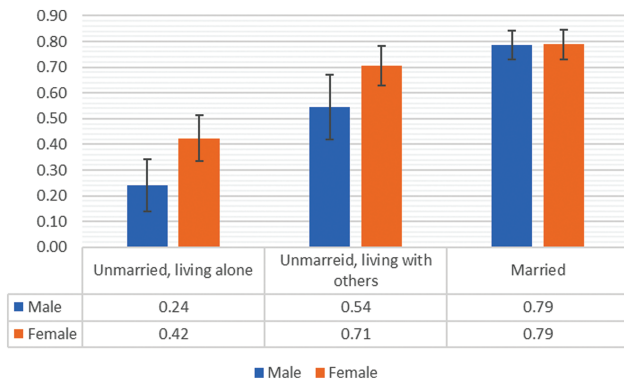


Figure 1. Predicted probability of receiving informal care among American men and women by marital status and living arrangement. Note: Predicted probabilities were calculated given that the rest of study variables were set to their mean values in 2014 HRS.

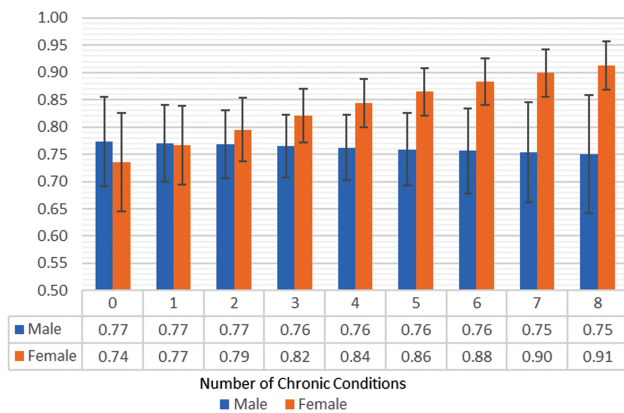


Figure 2. Predicted probability of receiving informal care among American men and women by the number of chronic conditions. Note: Predicted probabilities were calculated given that the rest of study variables were set to their mean values in 2014 HRS.

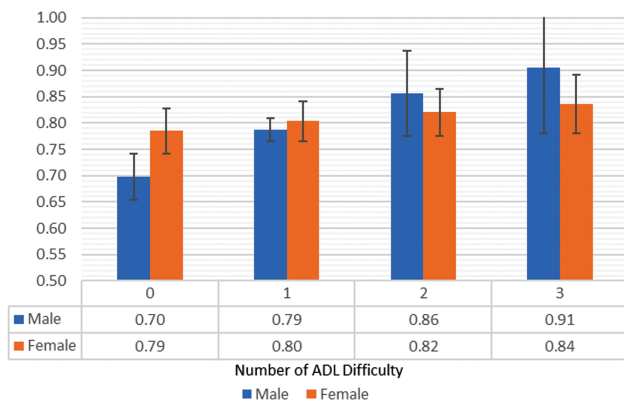


Figure 3. Predicted probability of receiving informal care among Chinese men and women by the number of ADL difficulty. Note: Predicted probabilities were calculated given that the rest of study variables were set to their mean values in 2015 CHARLS. ADL = activity of daily living.

ADLs or IADLs at an earlier age than American and Korean women, which may be due to insufficient public health care resources or greater instances of difficult living, physically

challenging labor (e.g., farming), and poor health at a younger age (Feng et al., 2013; Mu & Van de Walle, 2009). As older Chinese women were likely to have disabilities earlier than American and Korean women, they may have had a higher probability of living with coresident family members, such as spouses or unmarried adult children, who could support their daily activities.

However, when the interaction effects were added to the analysis, our results suggested a complex relationship between the receipt of informal care and gender. Specifically, when the level of functional limitations in ADLs was low and assistance for personal care was less intense, women were more likely to receive informal care than men, but when the number of limitations was high, the probability of receiving informal care was higher for men than for women. Older Chinese women with severe functional limitations were found to be disadvantaged in receiving informal help compared to their male counterparts. Gender disparities in spousal care and a strong reliance on children as caregivers may explain this result. When married older Chinese women are incapable of carrying out their ADLs, their husbands are usually older than they are and are more infirm, or are less skilled in caregiving, both of which would leave them unable to provide help (Chen et al., 2018). Older Chinese women who do not have a spouse often need to rely on their children or other adult relatives. If those caregivers are also employed outside the home, have other family duties, do not live nearby, or are less aware of older adults' needs, their availability may be limited, irrespective of whether the older women have more functional limitations.

The findings from this study suggest several implications for future research and policies. First, the cross-national differences in gender gap in the receipt of informal care revealed in this study point to some additional areas of interest for assessing social and cultural influences on the receipt of informal care. For example, gender roles, gender identity, and social norms regarding caring for older persons may be important in shaping gender differences in family relations, health conditions, and economic status; these in turn can affect old men and women's patterns of receiving informal care. For example, Korean men holding strong beliefs about traditional gender roles may be less hesitant to receive help related to household chores and personal care. However, those American men who are oriented to hegemonic masculinity and place a high value on independence may be reluctant to seek help from any source (Carr, Cornma, & Freedman, 2017). Our study did not directly measure gender identity, gender norms, or family culture. Thus, future studies are needed to investigate how the beliefs of older men and women in each country with respect to gender identity, gender roles, and family norms concerning caring for older people, as well as social and cultural factors, may affect older people's use of informal care.

Second, this study identified vulnerable populations lacking informal support, and this insight could help improve programs and services for caregivers and older adults

with care needs. For example, these findings should influence policymakers in the United States to target older men with poor health living alone, for public campaigns and programs to reduce their social isolation. Similarly, these findings should influence policymakers in Korea to pay more attention to older women in general and to address their unmet needs for long-term informal care, regardless of their living arrangement. Finally, these findings should influence policymakers in China to recognize that formal long-term supports are needed to meet the care needs of old women with severe disabilities. For all three countries, caregiving education and skills-training programs targeting male spouses and other adult male relatives should be expanded to improve the chances of disabled older women receiving informal care.

Several limitations to this study should be noted. First, we used dichotomous measures with respect to the receipt of informal care. Due to the lack of appropriate measures in all three data sets, we were not able to examine gender differences in the amount of informal care given and received. Information on care-receiving hours by caregiving sources (e.g., spouses and children) was only available in the United States and Korea. However, as the same information was not available for China in CHARLS, gender differences in the amount of informal care were not included in this paper. Second, caution is required when comparing findings across countries because there are slightly different measures used to gauge the receipt of care across the three countries. In this study, the receipt of care was defined as receiving help related to ADLs and IADLs. However, the scope and nature of ADLs and IADLs differed slightly across the data. Cultural, legal, and other differences across the three countries may have led to critical differences in how the questions were worded or how they were interpreted, and this may also have affected the results. Nonetheless, since we compared men and women within a country, this problem may be minimal. Third, we were not able to examine cross-national differences in the effects of older adults' cognitive status (i.e., dementia) on the receipt of informal care because the Chinese data (CHARLS) and the Korean data (KLoSA) did not share common measures for cognitive function. Future research is needed to examine how differences in cognitive impairment status affect gender differences in care arrangements across the countries. Fourth, we did not conduct a multinomial logistic regression, which would help researchers distinguish groups receiving only informal or formal care from groups receiving both informal and formal care. The sample size for groups who received only formal care or both formal and informal care in Korea and China was not large enough for us to conduct analysis using a multinomial logistic regression model; instead, we included the receipt of formal care as a covariate in the analytic models.

Care arrangements are the outcome of complex interactions among individual characteristics and social structural factors. Gender is one of the most important factors

shaping health inequalities, the availability of family caregiving, and access to long-term public care (Calasanti & Slevin, 2001). However, the relationship between gender and care arrangements is relatively understudied from the care recipients' side. Our study indicated that the patterns of gender differences in the receipt of informal care vary across China, Korea, and the United States, suggesting that social and cultural factors may play a critical role in deciding the care arrangements of men and women. Our cross-national comparisons highlighted the importance of social contexts. Future efforts should focus on disentangling the pathways by which social and cultural factors at the macro level interact with gender and differently shape patterns of care arrangements by gender.

Supplementary Material

Supplementary data is available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

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Conflict of Interest

None reported.

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