Gender Differences in Family and Paid Disability Help Among Older Adults: Evidence From the United States, Mexico and Indonesia*

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Abstract:

As the global population ages, understanding caretaking becomes increasingly important. Caretaking is important for the well-being of the care recipient and also for the caretakers themselves. Yet who the caretakers are and how they vary by age, gender, and national context remains less clear. Here, we document the relationship of the caretakers to care-recipients and how they vary by recipient's gender, age, and disability (ADL/IADL) in the United States, Mexico, and Indonesia. We used the 2014-15 Health and Retirement Study, the 2015 Mexican Health and Aging Study, and the 2014 Indonesia Family Life Survey and descriptive methods to document who caretakes. We find that in each of the countries men relied on their spouses for help. In contrast, women in each of the countries relied on their children for help. The United States had considerably higher levels of paid-help. Documenting who caretakes for disabled older adults across countries and cohorts is valuable for understanding global aging.

Introduction

The global population is aging. By 2050 roughly 1.6 billion humans will be aged over 65 and almost 500 million will be aged above 80[1]. A substantial proportion of this aging will occur in countries in the global South. The massive demographic shift towards an elderly global population has profound implications for humanity. One question facing the aging population is: who will take care of sick or disabled older adults? Of course, this question is also currently relevant as caretaking of disabled adults is critical for the life quality, physical health, mental health of the adult being cared for (e.g. see Spitznagel et al. 2006; Kaewma et al. 2017; Hoe et al. 2007) but also has economic, social, and health consequences for the caretaker(s) themselves (see Beach et al. 2000; Pinquart and Sörensen 2003; Dunkle et al. 2014; van der Lee et al. 2014; Dassel et al. 2017). Thus, an aging population warrants careful documentation of who caretakers are and how they vary across gender, the life-course, and national contexts.

While the implications of caretaking are stark, who the caretakers are and the factors that determine caretaking remain comparably less clear. In this descriptive analysis, we use newly released data representative of older adults (aged 50+) in Mexico, Indonesia, and the United States to document who cares for disabled older adults and how it varies by gender and age of the care recipient. These three countries were selected due to their large populations, unique social and geographic contexts, and because these countries have high quality representative surveys of older adults that contain questions allowed us to create directly comparable measures of help received among those with disability. We specifically looked at questions pertaining to who was the main caretaker among respondents who reported having some disability- be it due

[1] https://www.census.gov/content/dam/Census/library/publications/2016/demo/p95-16-1.pdf

to difficulty with Activities of Daily Living (hereafter ADLs) or difficulty with Instrumental Activities of Daily Living (hereafter IADLs).

We contribute to previous work on caretaking and research regarding who caretakes (Shen et al. 2017; Paulson and Lichtenberg 2011) in important ways. We update previous research that documented caretaker characteristics in the United States in the early 2000s (e.g. Van Houtven and Norton 2004; Wolff and Kasper 2006) and compare caretaking norms to Mexico and Indonesia: countries with relatively less research regarding caretaking[2], lower levels of economic development and rapidly growing older adult populations (Wong and Palloni 2009; Sudharsanan and Bloom 2018). These countries are important as they allow the comparison of caretaking in national contexts with different social expectations for care, social safety nets, and industries of care. Finally, we pay explicit attention to documenting gender differences, as gendered expectations of care can vary dramatically within and between countries (Yu and Lee 2013; Sheehan, Domingue, and Crimmins 2018).

Data/Methods

Data

Given the increased social and economic importance of aging, surveys such as the Health and Retirement Study (hereafter HRS) in the United States were developed to gauge the health and well-being of the older adult population. Subsequently, other countries both developed and developing alike who were also interested in understanding their aging populations developed "sister studies" (Lee 2010)[3]. These surveys have been designed to be largely comparable with the

[2] (Trujillo et al. 2012) study the effect of informal care on health and mortality among Mexican elderly

[3] see Gateway to Global Aging at https://g2aging.org/ for more details

HRS, in terms of the research design, sampling question wording and other key domains. There are nonetheless differences in terms of the subset of questions administered depending on the cultural context, language and other questionnaire differences. For the context of this analysis we also used the Indonesia Family Life Survey (hereafter the IFLS) and the Mexican Health and Aging Study (hereafter MHAS) due to their precise question wording similarities with the HRS, large older adult populations and geographic/social idiosyncrasies. We explored four additional aging surveys (ELSA, TILDA, SHARE & CHARLS) but due to distinct question wording differences were unable to include them in our comparison. This is discussed in more detail in the Appendix. Specifically, we utilized the most recent data publicly available at the time. Hence, we use HRS Wave 12 (2014-15), MHAS Wave 4 (2014-15) (MHAS 2015) and IFLS Wave 5 (2014-15) (Strauss, J., F. Witoelar, and B. Sikoki 2016). The IFLS, while not an aging survey, introduced HRS-comparable questions regarding later life health starting Wave 4 (Strauss et al. 2009).

Measures

We utilized the comparability across survey questions wherever feasible, while accounting for all the intended and/or idiosyncratic differences in the details as the ability to live independently is also influenced by the environment and thus require a helper.

In terms of sampling criterion, we started by identifying respondents who reported having some disability based on whether they have some or more difficulty with any of the ADLs or any of the IADLs. Both the HRS and MHAS ask about the exact same six ADLs. While the IFLS does ask about difficulty with walking across a room, it is not listed under ADL, and thus the help with ADL/IADL question does not take the response to this activity into account. Since our main interest is not cross country comparison of disability but assessing help received among those

with ADL/IADL difficulties, we do not take 'walk across a room' when constructing our disability due to ADL difficulty variable in the IFLS (since help with this activity will not be asked about among these respondents). There are also differences in the number of IADLs each of these surveys asks about- HRS asks about five IADLS, MHAS asks about four, while the IFLS asks about six IADLs[4]. While there were some idiosyncrasies in the limitations measured by each country, these are considered to be culturally relevant limitations that may inhibit the ability to live independently and require a helper in each of the countries, thus we utilized the same batteries (ADLs/IADLs) even if the exact measures were slightly different. The respondents were categorized as having an ADL/IADL disability if he/she reported some or more difficulty with any of the ADLs/IADLs.

Next, we constructed the help received variables, among those who are categorized as having ADL or IADL based disability. We first measured whether the respondents with reported difficulties received any help at all. In the HRS and MHAS, this was asked for each ADL and IADL difficulty. We combined these responses to generate whether any help was received with ADLs and another variable for help received with IADLs. In the IFLS, a single question is asked regarding whether respondent received any help with the daily activities if they reported difficulty with any of the ADLs or IADLs. That is, ADL help and IADL help cannot be separately distinguished in the IFLS.

The second set of help-received variables are the focus of this paper- family and/or paid sources of help. In each survey, respondents who reported receiving some help were asked about

[4] HRS IADLs include: prepare hot meals, shop for groceries, phone call, take medicine, manage your money; MHAS IADLs include: prepare hot meals, shop for groceries, take medicine, manage your money; IFLS IADLs include: shop for personal needs, prepare hot meals, take medicine, household chores, shop for groceries, manage your money.

their relationship with the helper, starting with who helps the most[5]. We categorized these into two groups- family and non-family/paid. The familial helpers were four categories: spouse, children (biological, non-biological, son/daughter-in-law), grandchildren, and other relatives. Non-family help has two categories: paid and others. We used information on relationship with respondent for who helps the most, which is the first asked about helper (excluding the helper relationship for managing money in HRS). 50% or more of the applicable respondents in each country, gender and age-group had only one helper. We discuss the implications of this decision further in the discussion.

Methods

Our analysis is a descriptive one. We begin by documenting the prevalence of disability (ADLs/IADLs) by gender and age group. Next, we illustrate the prevalence of the caretaker by age, gender, and national context. We simplified the large amount of results by utilizing figures of the most common caretakers. The results from Mexico and Indonesia were weighted to be representative of the national population, whereas the results from the United States were not weighted. The HRS weights are designed to provide estimates of the non-institutionalized population, since many of the disabled in the United States are institutionalized and would be excluded using the HRS weights, we decided to provide unweighted estimates from the HRS.

Results

Table 1 presents the descriptive characteristics of the sample. Not surprisingly the age compositions of the United States and Mexico are significantly older than Indonesia as Indonesia

[5] The HRS asks for details for up to 7 ADL helpers and 6 IADL helpers. It also asks separately about who helps with managing money. MHAS asks for details for up to 8 ADL and IADL helpers respectively. The IFLS only asks about a maximum of 3 helpers.

Table 1

Sample Characteristics, 2014 Health and Retirement Study (United States), 2014 Mexican Health and Aging Study and 2014 Indonesia Family Life Survey (Indonesia).

	United States		Mexico*		Indonesia*[#]	
	Males	Females	Males	Females	Males	Females
Age						
51-60	29.5%	29.8%	27.0%	32.0%	52.7%	50.3%
61-70	29.9%	29.2%	38.1%	36.0%	28.6%	27.5%
71-80	28.1%	27.4%	25.7%	23.1%	14.5%	16.5%
81-90	12.6%	13.7%	9.2%	8.9%	4.3%	5.7%
Percent with 1+ Activity of Daily Living (ADL) Limitation by Age						
51-60	13.5%	15.9%	4.6%	11.8%	6.6%	9.6%
61-70	14.6%	18.3%	13.4%	18.6%	10.0%	16.2%
71-80	18.0%	23.1%	19.9%	26.7%	18.5%	27.9%
81-90	31.3%	36.7%	39.2%	45.4%	22.8%	43.4%
Percent with ADL Limitation who report receiving Help						
51-60	39.6%	47.4%	5.5%	6.8%	61.8%	48.1%
61-70	41.7%	41.5%	7.6%	9.2%	63.4%	62.0%
71-80	50.0%	47.5%	10.5%	14.5%	72.1%	80.2%
81-90	58.9%	62.1%	25.1%	32.3%	82.0%	94.0%
Percent with 1+ Instrumental Activity of Daily Living (IADL) Limitation by Age						
51-60	15.2%	14.9%	7.6%	6.7%	18.9%	13.6%
61-70	16.3%	15.6%	14.0%	12.3%	27.3%	23.3%
71-80	23.7%	21.6%	21.7%	27.2%	45.6%	48.2%
81-90	43.2%	40.2%	40.5%	52.8%	67.6%	76.5%
Percent with IADL Limitation who report receiving help						
51-60	62.3%	69.6%	41.0%	68.7%	61.8%	48.1%
61-70	69.1%	73.4%	56.2%	69.2%	63.4%	62.0%
71-80	81.1%	80.8%	67.7%	80.5%	72.1%	80.2%
81-90	85.3%	89.6%	79.1%	95.4%	82.0%	94.0%
N	7,420	10,264	5,944	7,916	3,669	4,267

Data Sources: Health and Retirement Study, Mexican Health and Aging Survey, Indonesian Family Life Survey

*Data are Weighted to be representative of Sampling Frame.

[#]Help received is combined for ADL and IADL difficulties in the IFLS.

had about half of all males (52.7%) and females (50.3%) aged 51-60. The United States also had almost triple the amount of those who lived to be 81-90 as Indonesia. In terms of ADLs, without exception age was associated with greater prevalence of limitations. Additionally, in all countries, women reported higher levels of ADL disability than men in all age-groups. This is in accordance with previous research that has shown a later life female disadvantage in disability across the globe (Wheaton and Crimmins 2016). While younger (aged 51-60) American men (13.5%) and women (15.9%) had higher prevalence of ADL limitations than their Mexican and Indonesian counterparts, the reports of limitation became similar among all three countries by the oldest age group (81-90). The only exception being the eldest Indonesian men (aged 81-90), who still reported lower levels of limitations than American and Mexican men aged 81-90. The reports of help received among those with disability varied substantially by country. For every age group, Mexican men and women who were limited reported the lowest levels of receiving assistance, American men and women reported levels in the middle and Indonesians reported the highest levels of assistance.

Although Indonesian men and women reported comparably low levels of ADL limitations, they reported some of the highest levels of IADL limitations, especially after age 60. Once again, the prevalence of 1+ IADL limitation increased by age for each country. While ADLs are generally considered to be more severe, we found that across national contexts respondents reported higher levels of help with IADLs. For example, across countries and gender men and women in the oldest category who reported difficulty with IADLs had about 90% rates of reported assistance.

Table 2

Care Giver for Activities of Daily Living by Gender, Country, and Age, 2014 Health and Retirement Study (United States), 2014 Mexican Health and Aging Study and 2014 Indonesia Family Life Survey (Indonesia).

	Main ADL Helper is Spouse	Main ADL Helper is Child	Main ADL Helper is Grandchild	Main ADL Helper are other Relatives	Main ADL Helper is Paid	Main ADL Helper are Others
			United States			
Males						
51-60	61.5%	13.7%	1.7%	10.3%	5.1%	7.7%
61-70	66.7%	8.9%	3.0%	3.0%	11.9%	6.7%
71-80	62.6%	14.4%	1.6%	0.5%	20.3%	0.5%
81-90	48.8%	13.4%	1.2%	1.2%	30.2%	5.2%
Females						
51-60	34.6%	40.2%	7.3%	6.0%	6.0%	6.0%
61-70	32.5%	29.0%	10.5%	3.5%	14.9%	9.7%
71-80	30.7%	30.4%	4.9%	3.6%	26.9%	3.6%
81-90	11.1%	31.3%	3.8%	3.5%	42.4%	7.9%
			Mexico*			
Males						
51-60	68.3%	26.6%	0.0%	5.1%	0.0%	0.0%
61-70	83.0%	11.1%	4.4%	0.4%	0.1%	0.9%
71-80	50.8%	36.9%	0.6%	4.1%	3.7%	4.0%
81-90	37.6%	51.7%	0.4%	0.5%	7.5%	2.4%
Females						
51-60	23.6%	65.3%	3.2%	7.0%	0.5%	0.4%
61-70	46.3%	35.7%	9.7%	1.1%	3.4%	3.9%
71-80	13.7%	75.1%	5.4%	2.7%	0.9%	2.2%
81-90	5.9%	74.1%	4.9%	6.2%	7.6%	1.2%
			Indonesia**[#]			
Males						
51-60	71.2%	20.0%	0.9%	4.8%	3.1%	0.0%
61-70	64.5%	27.3%	2.2%	2.6%	3.1%	0.4%
71-80	49.8%	41.2%	4.2%	1.5%	2.1%	1.1%
81-90	25.2%	61.7%	6.8%	3.3%	3.0%	0.0%

Females						
51-60	27.2%	59.4%	3.3%	8.3%	1.6%	0.2%
61-70	7.3%	73.6%	6.5%	6.3%	3.9%	2.4%
71-80	3.1%	73.5%	10.8%	6.2%	3.7%	2.9%
81-90	0.7%	78.8%	12.3%	5.0%	2.1%	1.1%

Data Sources: Health and Retirement Study, Mexican Health and Aging Survey, Indonesian Family Life Survey
*Data are Weighted to be representative of Sampling Frame.
[#]Help received is combined for ADL and IADL difficulties in the IFLS.

Table 2 shows among those who reported an ADL limitation (ADL or IADL limitation in IFLS) and receiving help who was the main helper and how it varied by age and gender. In the United States, men had high levels of help from their spouses from the youngest age (61.5%) to the oldest (48.8%). In contrast women reported low levels of help from their spouse at each age category (34.6% to 11.1%). Mexico followed a similar pattern. However, the amount of help decreased slightly by age category for men and women in the first three age groups (51-80) then suddenly in the fourth (81-90). Both Mexico and Indonesia followed similar patterns. However, in Mexico and Indonesia the amount of help females could rely on from their spouses was considerably lower than in the United States.

Women in all three countries had lower levels of assistance from their spouse compared to men, instead they had higher levels of help from their children. The help from children for females was non-trivial in the United States, it was much higher in Indonesia and Mexico. For example, more than three quarters of Mexican women aged 81-90 reported their main helper was their child and almost 80% of Indonesian women reported that their main helper was their child. Levels of grandchild help were quite low across the world but American and Mexican women aged 61-70 did have non-trivial levels. In Indonesia and Mexico, the level of caretaking from children increased dramatically by age for men and women, however in the United States it (and

Figure 1. Reports of Spouse Being Main Caretaker for Activities of Daily Living Limitation. American, Mexican, and Indonesian Older Adults.

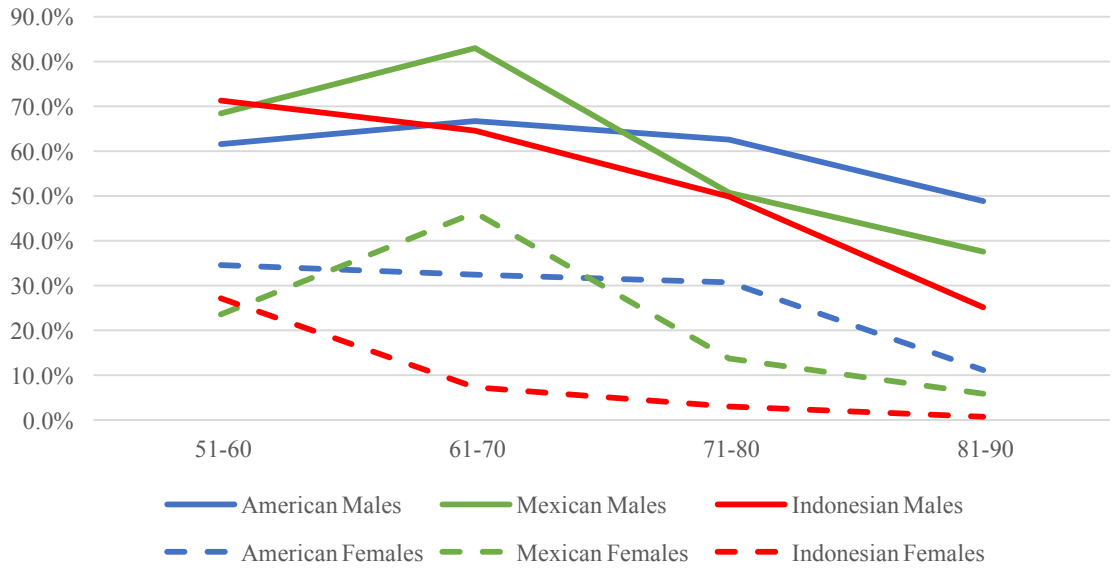
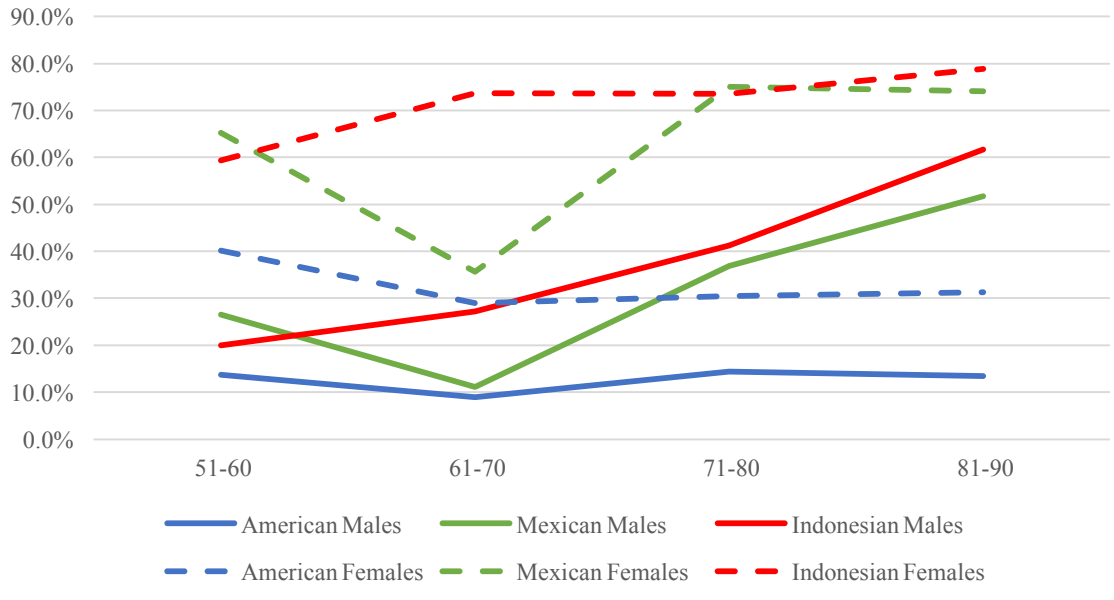


Figure 2. Reports of Children Being Main Caretaker for Activities of Daily Living Limitation. American, Mexican, and Indonesian Older Adults.



the gender difference) remained relatively constant. Also, Indonesian women aged over 71 had elevated levels of assistance from their grandchildren. In general, Indonesian older adults had higher levels of assistance from grandchildren than the other countries.

In terms of paid help, United States had by far the greatest levels of paid assistance. This assistance increased as we move from younger to older age cohorts, with a higher proportion of women relying on paid ADL help. For men, the main helper being paid reached almost 30% in the eldest age group and for women it reached over 42%. The prevalence of paid help was quite low in Mexico and Indonesia.

Gender and cross-country differences in ADL caregiving are quite evident from Supplemental Figures S1, S2 and S3. In all three countries, majority of men with disability relied on spousal help. Almost equal proportion of disabled women in United states relied on spouse and children respectively for help, this is consistent with previous research for United States (Janus and Doty 2017). Mexican and Indonesian women relied overwhelmingly on children for disability assistance.

Table 3

Care Giver for Instrumental Activities of Daily Living by Gender, Country, and Age, 2014 Health and Retirement Study (United States), 2014 Mexican Health and Aging Study and 2014 Indonesia Family Life Survey (Indonesia).

	Main IADL Helper is Spouse	Main IADL Helper is Child	Main IADL Helper is Grandchild	Main IADL Helper are other Relatives	Main IADL Helper is Paid	Main IADL Helper are Others
			United States			
Males						
51-60	58.4%	12.4%	2.2%	12.4%	4.4%	10.2%
61-70	75.5%	7.3%	1.3%	6.0%	4.0%	6.0%
71-80	64.5%	20.1%	2.3%	0.0%	10.8%	2.3%
81-90	59.2%	22.3%	1.0%	2.4%	12.3%	2.8%

Females						
51-60	32.7%	46.2%	1.9%	10.8%	3.1%	5.4%
61-70	29.9%	34.9%	5.7%	10.6%	7.2%	11.7%
71-80	28.0%	45.9%	4.5%	3.1%	9.8%	8.7%
81-90	12.1%	55.2%	5.5%	4.6%	15.3%	7.2%
			Mexico*			
Males						
51-60	75.3%	16.3%	0.0%	7.5%	0.0%	1.0%
61-70	75.2%	22.6%	0.7%	1.5%	0.0%	0.1%
71-80	46.7%	40.5%	5.5%	3.8%	2.1%	1.4%
81-90	41.6%	49.8%	0.1%	7.1%	0.4%	1.1%
Females						
51-60	25.3%	60.6%	2.0%	3.3%	0.4%	8.4%
61-70	24.9%	62.1%	7.5%	2.7%	0.4%	2.3%
71-80	13.7%	75.1%	7.2%	1.1%	0.8%	2.1%
81-90	6.9%	78.4%	4.4%	5.2%	2.2%	3.0%
			Indonesia*			
Males						
51-60	71.2%	20.0%	0.9%	4.8%	3.1%	0.0%
61-70	64.5%	27.3%	2.2%	2.6%	3.1%	0.4%
71-80	49.8%	41.2%	4.2%	1.5%	2.1%	1.1%
81-90	25.2%	61.7%	6.8%	3.3%	3.0%	0.0%
Females						
51-60	27.2%	59.4%	3.3%	8.3%	1.6%	0.2%
61-70	7.3%	73.6%	6.5%	6.3%	3.9%	2.4%
71-80	3.1%	73.5%	10.8%	6.2%	3.7%	2.9%
81-90	0.7%	78.8%	12.3%	5.0%	2.1%	1.1%

Data Sources: Health and Retirement Study, Mexican Health and Aging Survey, Indonesian Family Life Survey

*Data are Weighted to be representative of Sampling Frame.

Table 3 documents assistance for IADLs. Once again, in all three countries men had high levels of caretaking from their spouses. In contrast, women in all three countries had higher levels of assistance from their children. Thus, once again, for a different set of limitations, men rely on their spouses whereas women rely on their children for help. While America still has

much higher levels of paid help than the other countries, the levels of paid assistance are lower for IADLs than ADLs. Also consistent with the ADL results, Indonesia had higher levels of caretaking from grandchildren than Mexico or the United States.

Discussion

As the global population ages, caretakers are becoming increasingly important. In this descriptive analysis, we documented who was the primary caretaker for older adults who reported being limited with an Activity of Daily Living or Instrumental Activity of Daily Living in the United States, Mexico and Indonesia and how caretakers varied by respondent's gender and age. While Indonesia, Mexico, and the United States are vastly different geographic, economic, political and social contexts there were some similarities in care takers by age. In all three countries majority of men reported their caretakers to be their spouses through their 80's. This is consistent with other work that has shown that care taking is primarily conducted by women (Meira et al. 2017) and more specifically wives (Kim et al. 2017; Umberson, Donnelly, and Pollitt 2018). As care taking can be stressful and negative for well-being, the substantial care taking of women of their spouses could slowly also undermine their well-being and potentially be leading to the worse health of women compared to men (Read and Gorman 2010). In Indonesia and Mexico, for men and women who lived to older ages (older than 80+), children became the primary care takers. We propose three main reasons behind this. First, children taking care of parents in old age is a continuing social norm in Mexico and Indonesia. Second, neither of the two countries have a substantial social safety net or large for-profit industries for caretaking for the elderly. Finally, female life expectancy is higher than male life expectancy by

four to five years in both Indonesia and Mexico. Thus, in these contexts, children are especially critical for the care taking of older women, and older men to a lesser extent.

There were also differences across the countries. The United States relied the most on paid services. The care taking industry is large in the United States as institutional care is over a $300 billion-dollar industry[6]. In contrast, in Mexico and Indonesia paid help is almost non-existent. Going forward as the large cohort of American Baby Boomers continue to age, Indonesia and Mexico become older and economically more developed, there could be a large global surge in paid care taking.

There are important limitations to consider. First, while the HRS has a wide family of sister studies, wording differences made it impossible to make like comparisons between other countries from surveys like ELSA and SHARE. Thus, the extent to which our results are generalizable to other countries remains unclear. Another important limitation is that we relied on synthetic cohort techniques (Devereux 2007), meaning future cohort trends may vary from the age patterns documented here. Indeed, recent research has shown that gender roles and disability can change rapidly by cohort (Sheehan, Domingue, and Crimmins 2018). While we show results from the primary care giver, care taking can be comprised of more than one person (Gibbons, Ross, and Bevans 2014), thus future research should consider documenting how the inclusion of multiple caregivers influences care taking patterns.

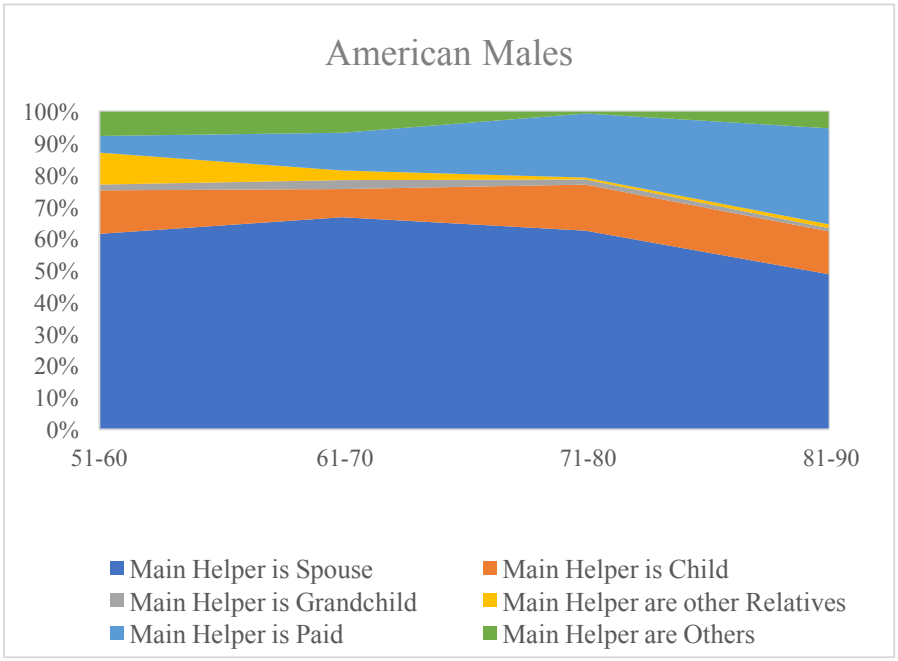
As the global population ages, understanding caretaking becomes increasingly important. We urge future researchers to continue to investigate and document the social patterning of caretakers. Indeed, as men consistently reported caretaking from their spouses and caretaking has been shown to have largely negative influence on well-being, the gendered pattern of caretaking

[6] https://www.kaloramainformation.com/Term-Care-9820056/

could also reinforce gender inequality in health. Policy makers should consider providing resources to caretakers, especially older married women and adult children with sick parents. These caretakers could benefit from instruction on caretaking as well as direct support.

Supplemental Figures

Figure S1. *Reported Main Care Taker for Activities of Daily Living, Untied States (Health and Retirement Study, 2014).*



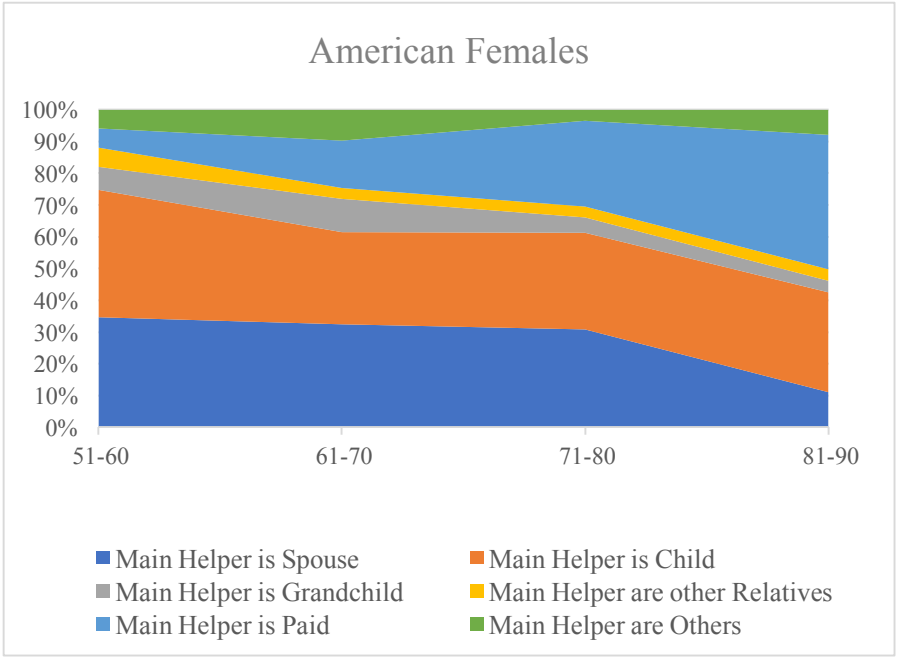
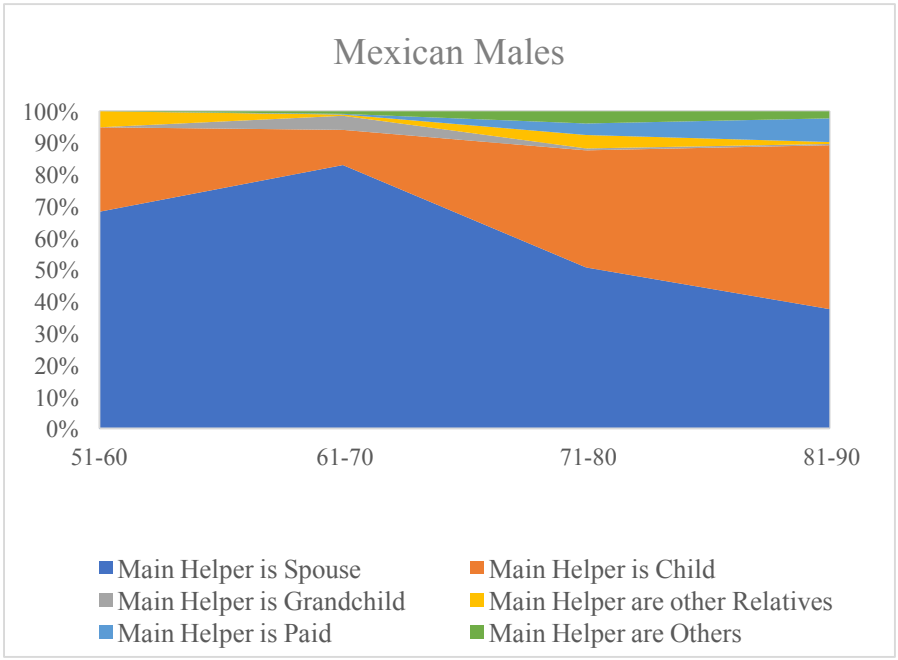


Figure S2. *Reported Main Care Taker for Activities of Daily Living, Mexico (Mexican Health and Aging Study, 2014).*



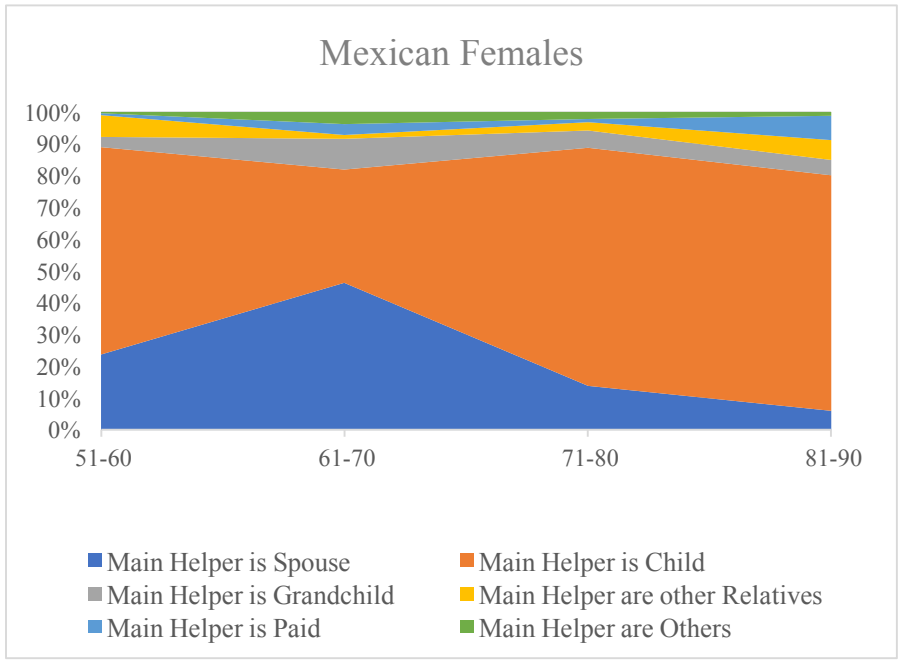
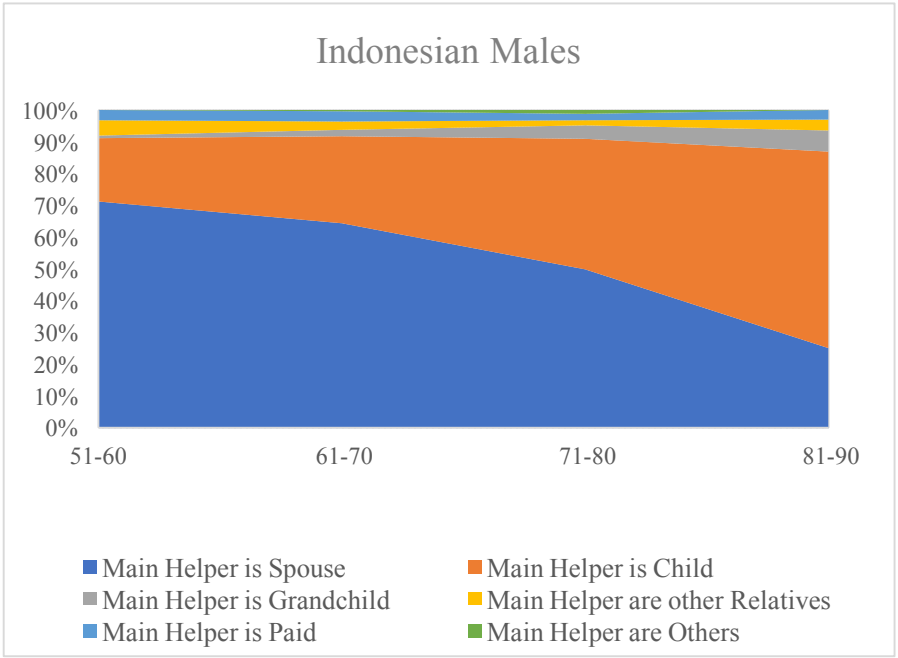
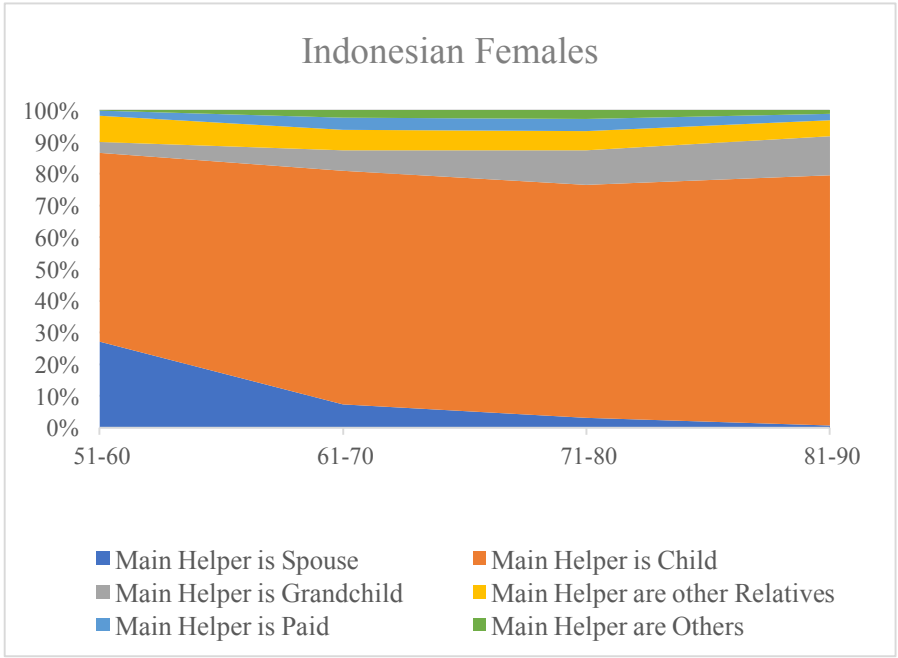


Figure S3. *Reported Main Care Taker for Activities of Daily Living, Indonesia (Indonesia Family Life Survey, 2014).*





References:

Beach, Scott R., Richard Schulz, Jennifer L. Yee, and Sharon Jackson. 2000. "Negative and Positive Health Effects of Caring for a Disabled Spouse: Longitudinal Findings from the Caregiver Health Effects Study." *Psychology and Aging* 15 (2): 259–71. https://doi.org/10.1037/0882-7974.15.2.259.

Dassel, Kara, Dawn Carr, Peter Vitaliano, and Peter Vitaliano. 2017. "Does Caring for a Spouse With Dementia Accelerate Cognitive Decline? Findings From the Health and Retirement Study." *The Gerontologist* 57 (2): 319. https://doi.org/10.1093/geront/gnv148.

Devereux, Paul J. 2007. "Small-Sample Bias in Synthetic Cohort Models of Labor Supply." *Journal of Applied Econometrics* 22 (4): 839–848.

Dunkle, Ruth E., Sheila Feld, Amanda J. Lehning, Hyunjee Kim, Huei-Wern Shen, and Min Hee Kim. 2014. "Does Becoming an ADL Spousal Caregiver Increase the Caregiver's Depressive Symptoms?" *Research on Aging* 36 (6): 655–82. https://doi.org/10.1177/0164027513516152.

Gibbons, Susanne W, Alyson Ross, and Margaret Bevans. 2014. "Liminality as a Conceptual Frame for Understanding the Family Caregiving Rite of Passage: An Integrative Review." *Research in Nursing & Health* 37 (5): 423–436.

Hoe, Juanita, Cornelius Katona, Martin Orrell, and Gill Livingston. 2007. "Quality of Life in Dementia: Care Recipient and Caregiver Perceptions of Quality of Life in Dementia: The LASER-AD Study." *International Journal of Geriatric Psychiatry* 22 (10): 1031–36. https://doi.org/10.1002/gps.1786.

Janus, Alexander L., and Pamela Doty. 2017. "Trends in Informal Care for Disabled Older Americans, 1982–2012." *The Gerontologist*, June. https://doi.org/10.1093/geront/gnx076.

John Strauss, FIRMAN WITOELAR, BONDAN SIKOKI, and ANNA MARIE WATTIE. 2009. "The Fourth Wave of the Indonesia Family Life Survey: Overview and Field Report." WR-675/1-NIA/NICHD.

Kaewma, S., J. K. Schneider, C. Geneus, and S. Prakobchai. 2017. "EFFECTS OF CHARACTERISTICS OF CARE RECIPIENT AND CAREGIVERS ON CAREGIVER BURDEN." *Innovation in Aging* 1 (suppl_1): 139–40. https://doi.org/10.1093/geroni/igx004.560.

Kim, Min Hee, Ruth E Dunkle, Amanda J Lehning, Huei-Wern Shen, Sheila Feld, and Angela K Perone. 2017. "Caregiver Stressors and Depressive Symptoms among Older Husbands and Wives in the United States." *Journal of Women & Aging* 29 (6): 494–504.

Lee, Jacqueline van der, Ton J. E. M. Bakker, Hugo J. Duivenvoorden, and Rose-Marie Dröes. 2014. "Multivariate Models of Subjective Caregiver Burden in Dementia: A Systematic Review." *Ageing Research Reviews* 15 (May): 76–93. https://doi.org/10.1016/j.arr.2014.03.003.

Lee, Jinkook. 2010. "Data Sets on Pensions and Health: Data Collection and Sharing for Policy Design." *International Social Security Review* 63(3-4): 197–222. https://doi.org/10.1111/j.1468-246X.2010.01375.x.

Meira, Edmeia Campos, Luciana Araújo dos Reis, Lúcia Hisako Takase Gonçalves, Vanda Palmarella Rodrigues, and Rita Radl Philipp. 2017. "Women's Experiences in Terms of the Care Provided to Dependent Elderly: Gender Orientation for Care." *Escola Anna Nery* 21 (2).

MHAS. 2015. “MHAS Mexican Health and Aging Study, (2015). Data Files and Documentation (Public Use): Mexican Health and Aging Study, (Wave 4)” Retrieved from www.MHASweb.org on 07/13/2018.

Paulson, Daniel, and Peter A. Lichtenberg. 2011. “Effect of Caregiver Family Status on Care Recipient Symptom Severity and Caregiver Stress at Nursing Home Intake.” *Clinical Gerontologist* 34 (2): 132–43. https://doi.org/10.1080/07317115.2011.539518.

Pinquart, Martin, and Silvia Sörensen. 2003. “Associations of Stressors and Uplifts of Caregiving With Caregiver Burden and Depressive Mood: A Meta-Analysis.” *The Journals of Gerontology: Series B* 58 (2): P112–28. https://doi.org/10.1093/geronb/58.2.P112.

Read, Jen’nan Ghazal, and Bridget K Gorman. 2010. “Gender and Health Inequality.” *Annual Review of Sociology* 36: 371–386.

Sheehan, Connor, Benjamin W Domingue, and Eileen Crimmins. 2018. “Cohort Trends in the Gender Distribution of Household Tasks in the United States and the Implications for Understanding Disability.” *Journal of Aging and Health*, 0898264318793469.

Shen, Huei-Wern, J. Delston, Yi Wang, and Yi Wang. 2017. “Does a Sense of Benevolence Influence Volunteering and Caregiving among Older People?” *Social Work Research* 41 (3): 155–66. https://doi.org/10.1093/swr/svx012.

Spitznagel, Mary Beth, Geoffrey Tremont, Jennifer Duncan Davis, and Suzanne M. Foster. 2006. “Psychosocial Predictors of Dementia Caregiver Desire to Institutionalize: Caregiver, Care Recipient, and Family Relationship Factors.” *Journal of Geriatric Psychiatry and Neurology* 19 (1): 16–20. https://doi.org/10.1177/0891988705284713.

Strauss, J., F. Witoelar, and B. Sikoki. 2016. “The Fifth Wave of the Indonesia Family Life Survey (IFLS5): Overview and Field Report” WR-1143/1-NIA/NICHD (March).

Sudharsanan, Nikkil, and David E Bloom. 2018. “The Demography of Aging in Low-and Middle-Income Countries: Chronological versus Functional Perspectives.” In *Future Directions for the Demography of Aging: Proceedings of a Workshop, E-Book, The National Academies Press, Washington, DC, Available at Https://Www. Nap. Edu/Read/25064*.

Trujillo, Antonio J., Thomas A. Mroz, Claudia Piras, Gustavo Angeles, and Nhan Tran. 2012. “Caregiving and Elderly Health in Mexico.” *International Journal of Health Services* 42 (4): 667–94. https://doi.org/10.2190/HS.42.4.f.

Umberson, Debra, Rachel Donnelly, and Amanda M Pollitt. 2018. “Marriage, Social Control, and Health Behavior: A Dyadic Analysis of Same-Sex and Different-Sex Couples.” *Journal of Health and Social Behavior*, 0022146518790560.

Van Houtven, Courtney Harold, and Edward C. Norton. 2004. “Informal Care and Health Care Use of Older Adults.” *Journal of Health Economics* 23 (6): 1159–80. https://doi.org/10.1016/j.jhealeco.2004.04.008.

Wheaton, Felicia V., and Eileen M. Crimmins. 2016. “Female Disability Disadvantage: A Global Perspective on Sex Differences in Physical Function and Disability.” *Ageing & Society* 36 (6): 1136–56. https://doi.org/10.1017/S0144686X15000227.

Wolff, Jennifer L., and Judith D. Kasper. 2006. “Caregivers of Frail Elders: Updating a National Profile.” *The Gerontologist* 46 (3): 344–56. https://doi.org/10.1093/geront/46.3.344.

Wong, Rebeca, and Alberto Palloni. 2009. “Aging in Mexico and Latin America.” In *International Handbook of Population Aging*, 231–252. Springer.

Yu, Wei-hsin, and Pei-lin Lee. 2013. "Decomposing Gender Beliefs: Cross-National Differences in Attitudes toward Maternal Employment and Gender Equality at Home." *Sociological Inquiry* 83 (4): 591–621.

Appendix

Other Aging Surveys

Other aging surveys with available data from 2014-15 were English Longitudinal Study of Ageing (ELSA) Wave 7, Survey of Health, Ageing and Retirement in Europe (SHARE), The Irish Longitudinal study on Ageing (TILDA) Wave 3 and China Health and Retirement Longitudinal Study (CHARLS) Wave 4. However, the questions regarding respondent relationship with disability helper were not as amenable to harmonization among these surveys. ELSA does not ask about main helper, but allows respondents to choose multiple helper options for each of the six categories of activities. We cannot get information on main helper with SHARE either since it asks about help received four times in different sections. CHARLS allows respondents to choose up to three main helpers. Finally, variables regarding helper relationship are not publicly available in TILDA due to their anonymization actions.