Examining the Impact of Grandparent Caregiving on Mortality

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Introduction

Mortality in the U.S. has significantly decreased since World War II. Increases in life expectancy have changed family structures and behaviors; the importance of intergenerational relationships and the role of older adults have increased in aging families. More and more older adults have been involved in caregiving for grandchildren as custodial or temporary caregivers (Silverstein & Giarrusso, 2010). The rapid growth of female labor-force participation and single parent families of adult children are factors which accelerate this trend of grandparent caregiving (Hofferth, 1996).

Previous literature has attempted to explain the consequence of grandparent caregiving for older adult well-being, especially health conditions. Previous studies have found both positive and negative impacts of grandparent caregiving on older adult health. There is some evidence that babysitting is positively linked to grandmothers' better health conditions (Hughes, Waite, LaPierre, & Luo, 2007). Recent studies focusing on different racial/ethnic groups found that Latin American grandparents report lower risks of depression when they provide regular caregiving for grandchildren (Grundy et al. 2012). Taiwanese grandparents who provide long-term multigenerational caregiving have better self-rated health and lower rate of depressive symptoms comparing to non-caregivers or short-term caregivers (Ku, Stearns, Van Houtven, Lee, Dilworth-Anderson, & Konrad, 2013). On the other hand, grandparent caregiving is negatively associated with older adult health. Grandparent caregivers are more likely than non-caregiving counterparts to experience poorer physical and mental health (Burnette 1999; Chen & Liu, 2012; Hayslip & Kaminski 2005; Musil & Ahmad, 2002; Musil, Warner, Zauszniewski, Jeanblanc, & Kercher, 2006). Custodial grandchild care is associated with older adults' reporting poorer health (Hughes et al. 2007; Lee, Colditz, Berkman, & Kawachi, 2003).

Although poor health outcomes increase the risk of mortality, to my knowledge, a dearth of studies have assessed the relationship between older adults' caregiving for grandchildren and mortality. It has also not been explored whether and how the grandparenting effect differs by gender. Furthermore, more longitudinal studies using nationally representative sample are needed to understand the long-term impact of grandparent caregiving on mortality among older adults.

The aim of this study is to respond to the need for more evidence on grandparent caregiving and older adult mortality. I investigate 1) whether and how grandparent caregiving differences in mortality have changed over time; and 2) if so, whether and how the impact of grandparent caregiving on mortality differs by gender. To explore the link over time, I draw on the Health and Retirement Study (HRS), nationally representative longitudinal data focusing on older adults' family life and health. Using the HRS data, two hypotheses will be tested in this study. I hypothesize that older adults with intensive caregiving for grandchildren will have a greater hazard of mortality than their counterparts with less caregiving for grandchildren (H1). I also hypothesize that the effect of grandparent caregiving on mortality may be stronger for female older adults than male older adults (H2).

Data and Methods

This study uses the Health and Retirement Study (HRS) data to examine the association between grandparent caregiving and mortality and its gender variations. The HRS data is a longitudinal study of a nationally representative sample of more than 26,000 Americans whose age is over 50 in 1992, the first survey year. The primary purpose of the project is to provide quality data on the changes in labor force participation, financial situation, and health transitions of American older adults. I utilize the seven waves (1996-2008) of the RAND HRS data and RAND HRS Family data, the cleaned and streamlined version developed by RAND. Of the 36,986 respondents from the RAND HRS data in 1996, 30,547 respondents have valid data for the RAND HRS Family dataset in the same survey year (1996). Of these, 11,716 respondents providing data about grandchild care are included in the final analytic sample. Weights are applied in the analysis to adjust for the sampling design of HRS dataset.

Measures

The dependent variable used in this study is mortality among older adults, which is whether the respondent died. Mortality ascertainment is based on deaths identified in follow-up interviews and from a probabilistic match between the HRS data and National Death Index records. I assume that only respondents with a value for the last month and year of life taken from the National Death Index are dead. The analysis time in this study is older adults' age at death instead of calendar time to easily catch the clear trend of mortality. The age at death is calculated in year with the life duration of respondents.

The independent variable is older adults' grandparent caregiving demands. This variable is created using the survey question to ask the total hours of child care for grandchildren the respondent provided per year. This is a dummy variable measuring the demand of grandchildren caregiving: None (=reference category), 1-99 hours, 100-199 hours, 200-499 hours, and over 500 hours. The categorization is based on corresponding survey items and previous literature (Hughes et al., 2007).

This study also explores how the effect of grandparent caregiving on mortality differs by gender. Gender is constructed as a dummy variable (*female*=reference category). The covariates in this study thus far are race, education, family income, and marital status in baseline year (1996). Race is used as a dummy variable: White (=reference category), Black, and Other races. Education is a continuous variable created from respondent's years of schooling, zero to 17 or more years. Family income is analyzed as a linear variable ranging from 0=lowest income to 5=highest income. Marital status is measured as a dummy variable: married (=reference category), partnered, separated or divorced, and widowed. Respondents who are never married are omitted because it is rare to have grandchildren and provide grandchild care as never married persons (0.08%).

Preliminary Results

Table 1 presents descriptive statistics for older adult sample who provided caregiving for grandchildren in this study. The results are displayed by gender to better understand the sample in the connection of the second hypothesis exploring the gender differentials in the association between grandparent caregiving and mortality. In the analytic sample from the HRS data (*n*=11,716), approximately 42.72% of women and 46.10% of men died by time of the follow up wave in 2008. The average age at death is approximately 80-year old for women and 77.8-year old for men. In the initial wave (1996), 17.98% of grandmothers and 18.80% of grandfathers report that they have provided grandparent caregiving. Grandmothers tend to spend more time on grandchild care than grandfathers. Grandparent caregiving for 100-199 hours per year is the largest group for grandfathers, whereas the largest group for grandmothers is those who provide grandparent caregiving for over 500 hours per year. With regard to socioeconomic characteristics, grandmothers are more likely than grandfathers to be older, less educated, and economically disadvantageous.

Future Steps

This study will examine whether or how caregiving for grandchildren has an impact on mortality among older adults over time, and whether or how the relationship differs by gender. I employ Cox proportional hazards regression model to investigate the relationship between grandparent caregiving and mortality over approximately twelve years, 1996-2008. Including additional predictors based on existing literature (e.g. living arrangement, various types of social support, location, labor force participation, etc.), I estimate two models. First, Model A examines the general mortality trend by grandparent caregiving. Next, Model B examines the gender differentials in the mortality trend by grandparent caregiving. Each model will have two sub-models. Model 1 is a baseline model to contain only respondent's grandparent caregiving demands. Model 2 adds the covariates for gender (only added to Model A), race, education, household income, marital status, and potential indicators.

References

Burnette, D. (1999). Social relationships of Latino grandparent caregivers: a role theory perspective. *The Gerontologist*, *39*(1), 49–58.

Chen, F., & Liu, G. (2012). The health implications of grandparents caring for grandchildren in China. *The Journals of Gerontology. Series B, Psychological sciences and social sciences*, *67*, 99–112.

Grundy, E. M., Albala, C., Allen, E., Dangour, A. D., Elbourne, D., & Uauy, R. (2012). Grandparenting and psychosocial health among older Chileans: A longitudinal analysis. Aging & Mental Health, 16, 1047–1057.

Hayslip, B., & Kaminski, P. L. (2005). Grandparents raising their grandchildren: a review of the literature and suggestions for practice. *The Gerontologist*, *45*(2), 262–9.

Hofferth, S. (1996). Child care in the United States today. *The Future of Children: Financing Child Care*, 6(2), 41–61.

Hughes, M. E., Waite, L. J., LaPierre, T. a, & Luo, Y. (2007). All in the family: the impact of caring for grandchildren on grandparents' health. *The journals of gerontology. Series B, Psychological sciences and social sciences*, *62*(2), S108–19.

Ku, L.-J. E., Stearns, S. C., Van Houtven, C. H., Lee, S.-Y. D., Dilworth-Anderson, P., & Konrad, T. R. (2013). Impact of Caring for Grandchildren on the Health of Grandparents in Taiwan. *The journals of gerontology. Series B, Psychological sciences and social sciences*, 1–13.

Lee, S., Colditz, G., Berkman, L., & Kawachi, I. (2003). Caregiving to children and grandchildren and risk of coronary heart disease in women. *American Journal of Public Health*, *93*(11), 1939-1944.

Minkler, M., & Fuller-Thomson, E. (2005). African American grandparents raising grandchildren: A national study using the Census 2000 American Community Survey. *Journal of Gerontology: SOCIAL SCEINCES*, *60*(2), 82–92.

Musil, C. M., & Ahmad, M. (2002). Health of grandmothers a comparison by caregiver status. *Journal of Aging and Health*, *14*(1), 96-121.

Musil, C. M., Warner, C. B., Zauszniewski, J. A., Jeanblanc, A. B., & Kercher, K. (2006). Grandmothers, caregiving, and family functioning. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *61*(2), S89-S98.

Mouzon, D. M. (2013). Can Family Relationships Explain the Race Paradox in Mental Health? *Journal of Marriage and Family*, *75*(April), 470–485.

Reitzes, D. C., & Mutran, E. J. (2004). Grandparent identity, intergenerational family identity, and well-being. *The journals of gerontology. Series B, Psychological sciences and social sciences*, *59*(4), S213–9.

Roberto, K. A., Allen, K. R., & Blieszner, R. (2001). Grandfathers' perceptions and expectations of relationships with their adult grandchildren. *Journal of Family Issues*, *22*(4), 407-426.

Silverstein, M., & Giarrusso, R. (2010). Aging and Family Life: A Decade Review. *Journal of Marriage and Family*, *72*(5), 1039–1058.

Table 1. *Descriptive Statistics of Analytic Sample from the HRS data (1996-2008) (n=11,716)*

	Women (n = 6,755)		Men (n = 4,961)	
	Mean or %	SD	Mean or %	SD
Grandparents' mortality (who died) (%)	42.72		46.10	
Grandparents' age at death	80.02	.20	77.81	.18
Grandparent caregiving (per year) (%)				
None (reference)	82.02		81.20	
1-99 hours	0.74		3.49	
100-199 hours	5.27		5.39	
200-499 hours	5.00		4.95	
500+ hours	6.98		4.96	
Demographic characteristics				
Female (reference) (%)	55.68		44.32	
Age	77.54	.25	74.58	.24
White (reference) (%)	88.86		90.25	
Black	9.24		8.04	
Others	1.90		1.71	
Socio-economic status				
Education (year)	11.45	.09	11.73	.10
Income (household)	2.19	.03	2.73	.04
Marital status (%)				
Married (reference)	49.47		78.62	
Partnered, Separated, or Divorced	11.50		10.26	
Widowed	39.03		11.12	

Note: SD=standard deviation; descriptive statistics are weighted.