The Double Burden for Grandmothers in a High Fertility Setting: Does the Combination of Work and Family Responsibilities Affect Health?

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Extended Abstract for PAA 2015

The term "double burden" is often used to characterize the challenges a woman, especially a mother, faces in balancing employment and domestic responsibilities (including household chores and caregiving). While engagement in multiple roles could enhance psychological and emotional well-being, excessive demands from any of or any combination of these roles could also become a source for elevated stress and take a toll on physical and emotional health. Studies on "the time bind" of family and work obligations mostly target working mothers. What we know much less about is the impact of the double burden that a grandmother faces when she combines childcare, housework, and work activities. The policy relevancy for the question may be limited in developed countries, where grandparent caregiving is not normative and grandparenthood comes at a later time in life when one is phasing out from the labor force. However, in a high fertility context when women tend to become grandmothers at a much younger age, when they still actively participate in the labor force, and where the cultural expectation of grandmothers to take care of grandchildren is high, how work and family loads influence a grandmother's health prospect is a research question that begs for an answer.

This study is set in Cebu, Philippines, where fertility has started to decline but total fertility rate still remains well above 3.0 and the mean age at birth is 23.1. Women thus often become grandmothers at a much younger age compared to most women in low fertility settings. A 2009 report suggests that 1 in 5 older adult Filippinos take care of grandchildren, regardless of coresidence status (Cruz et al. 2009). The percentage would be even higher if younger women were included in the estimate. The tradition of international migration and increasing trend of overseas Filipino workers also translates into a higher demand for grandmothers to participate in childrearing. At the same time, many of these grandmothers are actively participating in the labor force and continue to be responsible for domestic chores. Therefore, the health risks of role overload for the grandmother arguably could be higher than those for mothers, given that they are at a life stage when the onset of disabilities and chronic diseases has already begun.

Previous works on the health implications of grandparental caregiving tend to focus on caregiving activities or coresidence structure, without much attention to other activities in which one engages. While role strain and role enhancement theories are often invoked in predicting the health consequences of caregiving, existing literature is devoid of direct tests of the mechanisms. Work status is often used as a control variable while measures of domestic chores are rarely

available in health surveys. In addition, the existing research overwhelmingly focuses on older adults (aged 60+) only, leaving the question of how early grandparenthood affects health unanswered.

We use data from a mother and child cohort study of the Cebu Longitudinal Health and Nutrition Survey (CLHNS) conducted in metro Cebu, Philippines. Women were first interviewed in 1983 and were followed up in 1985, 1991, 1994, 1998, 2002, 2005, 2007, and 2012. These women were recruited into the survey by virtue of their having given birth within a one-year period (May 1983- April 1984), therefore making the sample selective of high fertility and lower socioeconomic status (Adair et al 1997; Gultiano 1999). The survey provides a rare opportunity to track the health of women beginning from a time when they are relatively free of chronic diseases and disabilities through mid life and into early late life. There are no comparable large samples of women in developing countries followed from the reproduction years to older adulthood. In 1983, the women ranged in age from 14 to 45, with a mean age of 26. By 2012, over 90% of the women have become grandmothers while close to 70% are still actively participating in the work force. Thus, we have the unique opportunity to observe health trajectories of women who become grandmothers at different points in life, and to assess how the heterogeneity in their work activities and family responsibilities could affect their health differently.

Research Questions

Literature on maternal employment and childcare is pervasive with discussion on role incompatibility/conflict caused by the dual demands of work and caregiving. Does a grandmother face similar challenges in a context where it is normative for her to provide childcare? A previous study in China suggests the average level of a grandmother's care is equivalent to that of a mother in caring for preschool children (aged 0-6) except for children under the age of 1 (Chen, Liu and Mair 2010). What remains underexplored is the question, if a grandmother is heavily involved with work, do the combination of work and caregiving responsibilities bring undesirable consequences to health? It is worth noting, that in a developing country setting, the boundary of work is fluid. Thus, to adequately capture the configuration of work and family roles, our first step in the analysis is to capture the complexity of both work and family responsibilities by taking advantage of data that the CLHNS has to offer.

In the first part of the paper, we describe women's work, childcare, and household chore responsibilities, and their association with grandparenthood. Previous research often relies on proxy measures, for example, the number of preschool age or school aged children as proxies for childcare responsibilities. The richness of time use data in CLNHS allows us to examine the activities in which a woman engages in detail. In addition, the detailed questions on work also allow us to go beyond the traditional dichotomy of working versus not working, part time versus full time work. Income generating work can take many forms, including outside and inside the home, formal and informal sector. Women often take multiple jobs. We highlight the complexity of work and its "compatibility" with family roles, in addition to hours of work. The longitudinal nature of the data also means that we can not only compare the time use and work patterns of

grandmothers providing different levels of care, but we can also examine whether there is a *change* in any of or any combination of these activities after one becomes a grandmother and has more grandchildren. Based on a close examination of the time use patterns and job characteristics, we expect to capture the various social roles a woman engages in and to develop "profiles" of women in various levels of work/family combinations, and to lay out the ground work for the subsequent analysis on health trajectories.

In the second part of the paper, we directly examine the effect of combinations of work and family responsibilities on self reported health trajectories. Previous research suggests that the effect of grandparent caregiving on the health of grandparents is not universal but instead varies by the intensity of caregiving. Light amount of caregiving can be beneficial while intensive caregiving can have a detrimental effect on health, especially when socioeconomic resources are inadequate (Chen and Liu 2011). In this paper, we go beyond characterization of caregiving responsibilities only. We are interested in the separate, cumulative and joint effects of work and family responsibilities. As in many other settings around the world, Filipino women typically bear the main responsibility of household work and caregiving work even when they actively participate in the labor force. A high level of role conflict can lead to psychological and physiological distress, which can be especially acute for Filipino grandmothers in mid or late life, who may start to face the challenge of onset of chronic/degenerative diseases and disability, which are rapidly increasing in recent years. We hypothesize that caring for grandchildren per se may not lead to poor health. However, a combination of intensive caregiving and household chores, with a high level of involvement in paid work, particularly if the nature of the work is less compatible with child care, takes a toll on health. With the use of longitudinal design, we can also further examine the effect of the timing of transition into grandmotherhood, its associated changes in work and family responsibilities, and whether any extended period of heavy burden from these responsibilities could have a cumulative adverse health effect. Health change does not take place suddenly but rather is a cumulative process. Thus, we believe our analysis on health trajectories rather than health status offers another contribution to the literature on the health implications of grandparental caregiving.

Data

The CLHNS, established through collaboration between researchers at the Carolina Population Center at UNC Chapel Hill, and the Office of Population Studies Foundation (OPS) at the University of San Carlos in Cebu, follows a cohort of mothers and an index child born in 1983-84. Using a single stage cluster sampling procedure, 17 urban and 16 rural barangays (local administrative units) were randomly selected from the 255 barangays in Metropolitan Cebu. The 33 barangays, representing about 28,000 households, were surveyed to locate all pregnant women. Those who gave birth between 5/1/83-4/30/84 were included in the sample and interviewed in their 6-7th month of pregnancy, immediately after birth, then bimonthly for two years, with follow-up surveys in 1985, 1991, 1994, 1998, 2002, 2005 , 2007 and 2012. Another round of data collection is planned in 2014.

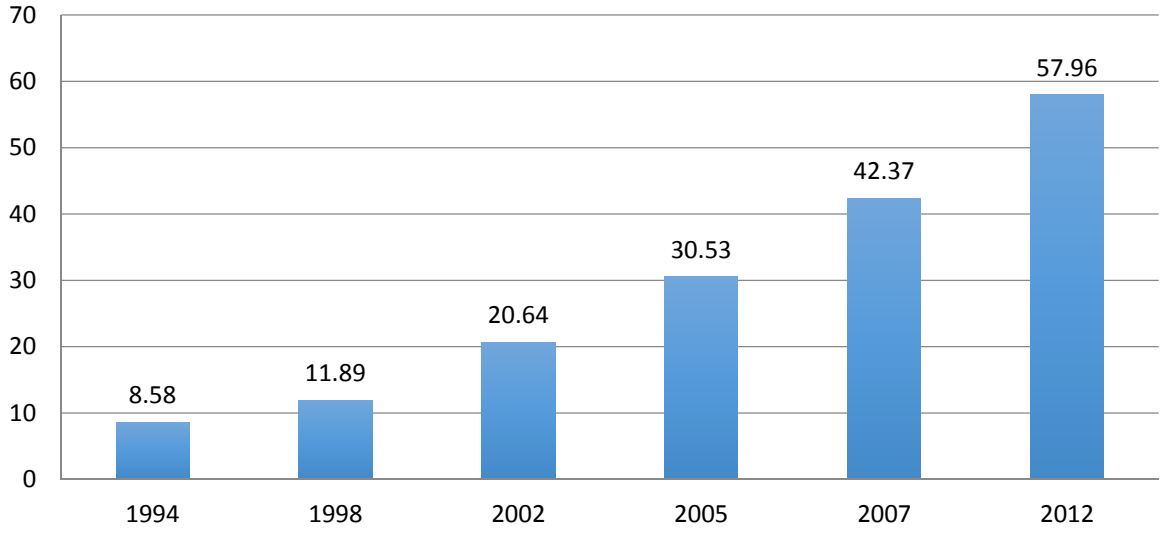
Self-reported Health

Data on self reported health was first collected in 1994. This provides six time points (1994, 1998, 2002, 2005, 2007, 2012) where we can measure a trajectory of self reported health across a period of eighteen years. It is based on the survey question: ‘‘How would you rate your general health?’’ The responses range from 1 to 3, indicating poor to excellent health. We use this measure of self-reported health as our main dependent variable. The measure has been used extensively in U.S. based research and has been consistently documented to be a valid measure of health (Farmer and Ferraro 1997; Hays et al. 1996; Johnson and Wolinsky 1993) and a potent predictor of mortality even when objective measures of health based on physicians’ examinations, medical records or extensive health histories are controlled (Idler and Angel 1990; Idler and Benyamini 1997). We will also compare our results using other health measures such as the number of illnesses and functional limitations.

Grandparenthood

The CLHNS collects information on whether anyone is a grandmother, whether there is coresident grandchild living in the household as well as the number and age of coresident grandchildren. Caregiving hours on coresident and noncoresident grandchildren are collected in a ‘time use’ section (see later section). Figure 1 shows that the number of women who are living with grandchildren steadily increases over the eighteen year observation period, from less than nine percent in 1994 to more than half of the analytical sample in 2012.

Figure 1. Percentage of Women with Coresident Grandchild in the Household, CHLNS, 1994-2012 (N=1,815)



Latent Class Cluster Analysis: Operationalization of Work and Family Responsibilities

The CLHNS collects data using 24-hr activity diaries (reported for a typical weekday). We can calculate the amount of time usually spent daily on activities such as food preparation, housekeeping, caregiving, working at home, working away from home, leisure, and sleep (1994, 1998, 2002, 2005, 2012). In addition, the CLHNS has detailed questions on work, including types of occupation, whether the woman has a secondary job, as well as other income generating work ranging from agricultural fieldwork to wage work. These time use measures together with the variables on occupational characteristics will help us operationalize different social roles women occupy and potentially capture different levels of role strain. We propose to use latent class cluster analysis (also known as Latent Profile Analysis) to generate a typology or latent classes that categorize women into different subtypes depending on the combination of work and family responsibilities. The LC approach offers an advantage over standard cluster analytical technique in that it is model based and has little restriction on scaling of the variables (Vermunt and Magidson 2002). We believe that this innovative approach will allow us to accurately measure the double burden these Filipino women may experience.

Growth Curve Analysis on Self Reported Health Trajectory

We begin with a change trajectory model of self-reported health of individual *i* at time *t* (SRH_{ti}), as a function of age (Age_{ti}) and its quadratic term. The quadratic is included due to its better empirical fit and a theoretical expectation of a nonlinear pattern of health decline. We further add our key independent variables— measures of grandparenthood, which are all time-varying variables. We first model the effect of having grandchildren as well as coresidence status (no grandchildren, having non-coresident grandchildren, coresidence with grandchildren in skipped- generation households, coresidence with grandchildren in three-generation households, number of coresident and noncoresident grandchildren). Because the effect of grandparenting on health is expected to be age dependent, we also add the interaction terms between age and the grandparenting measures at level 1.

$$SRH_{ti} = \beta_{0i} + \beta_{1i}\, Age_{ti} + \beta_{2i}\, Age_{ti}^{\,2} + \beta_{3i}\, Grandparenting_{ti} + \beta_{4i}\, Age_{ti} * Grandparenting_{ti} + e_{ti} \qquad (1)$$

We then posit a level-2 submodel for interindividual difference in change, where the coefficients β*'s* in the level-1 model are further modeled as dependent variables. Although technically it is possible to model all of the β*'s,* we choose our models based on our theoretical hypotheses. We begin with two *unconditional* models of the intercept model β_{0i} and linear rate of change β_{1i} at Level-2, but will also test a model on β_{2i} (quadratic rate of change) later. Other predictor variables are entered at level-1 for time-varying covariates (e.g.,marital status, SES, health behavior such as smoking at drinking) and at level-2 for time-constant covariates (urban/rural residence). We address potential bias introduced by attrition by using the simple but effective strategy of entering dummy variables indicating deceased or non-respondent status (Raudenbush & Bryk, 2002).

$$\beta_{0i} = \gamma_{00} + \gamma_{01} X_{i1} + \gamma_{02} X_{i2} + ... + \gamma_{0k} X_{ik} + u_{0i} \qquad (2)$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11}X_{i1} + \gamma_{12}X_{i2} + ... + \gamma_{1k}X_{ik} + u_{1i} \quad (3)$$

One of our key predictor time varying covariates will be based on the work and family "profile" developed in first step of the analysis. We expect that, depending on the different configurations of work and family responsibilities, the impact of grandparenting could be quite different. Those who are heavily burdened with work and caregiving duties are expected to be adversely affected while others may not. We believe this approach is superior to modeling the effects of work, caregiving, and household chores separately, as we argue that it is the combination of those activities that matters. Nonetheless, we will present those alternate models for comparison.

Preliminary Results

To illustrate the usefulness of the time use data, we present two sets of boxplot displays that show variation in daily use in hours spent in household chores, childcare, working and other activities (including sleeping and leisure), using the 2012 wave of the CLHNS data. We exclude non-grandmothers in this demonstration, because more than 90% of the women are grandmothers in 2012. Figure 2 shows the distributions in these different tasks by 1) whether one is a non-coresident grandmother, 2) living with grandchild under age 6, or 3) living with grandchild aged 6 and older. The distribution of household chores is quite similar across these groups of women. As expected, noncoresident grandmothers did the least amount of childcare, while those living with preschool aged grandchildren did the most. What is most interesting is the distribution of working hours. While grandmothers living with grandchildren work fewer hours on average (indicated by lower median hours, lower 75th percentile mark) than those who do not live with grandchildren, the overall distribution of work hours is actually remarkably similar to those noncoresident grandmothers. Clearly, this suggests that many of the grandmothers who are taking care of the grandchildren have a productive work life. Figure 3 shows the distribution of daily time use in different activities by grandmothers' age. For grandmothers aged 50-59, compared with those in younger age, the distribution of working hours shows little sign of "retreat" from work. Many of those who are 60 and older are still actively working. Our ongoing work, including the creative use of these time use data, together with information on job characteristics, will illuminate the complex process of how work and family roles affect health trajectories in mid and late life.

Figure 2. Boxplot Display of Daily Time Use on Specific Tasks by Grandmother Status, CLHNS 2012 (N=1,701)

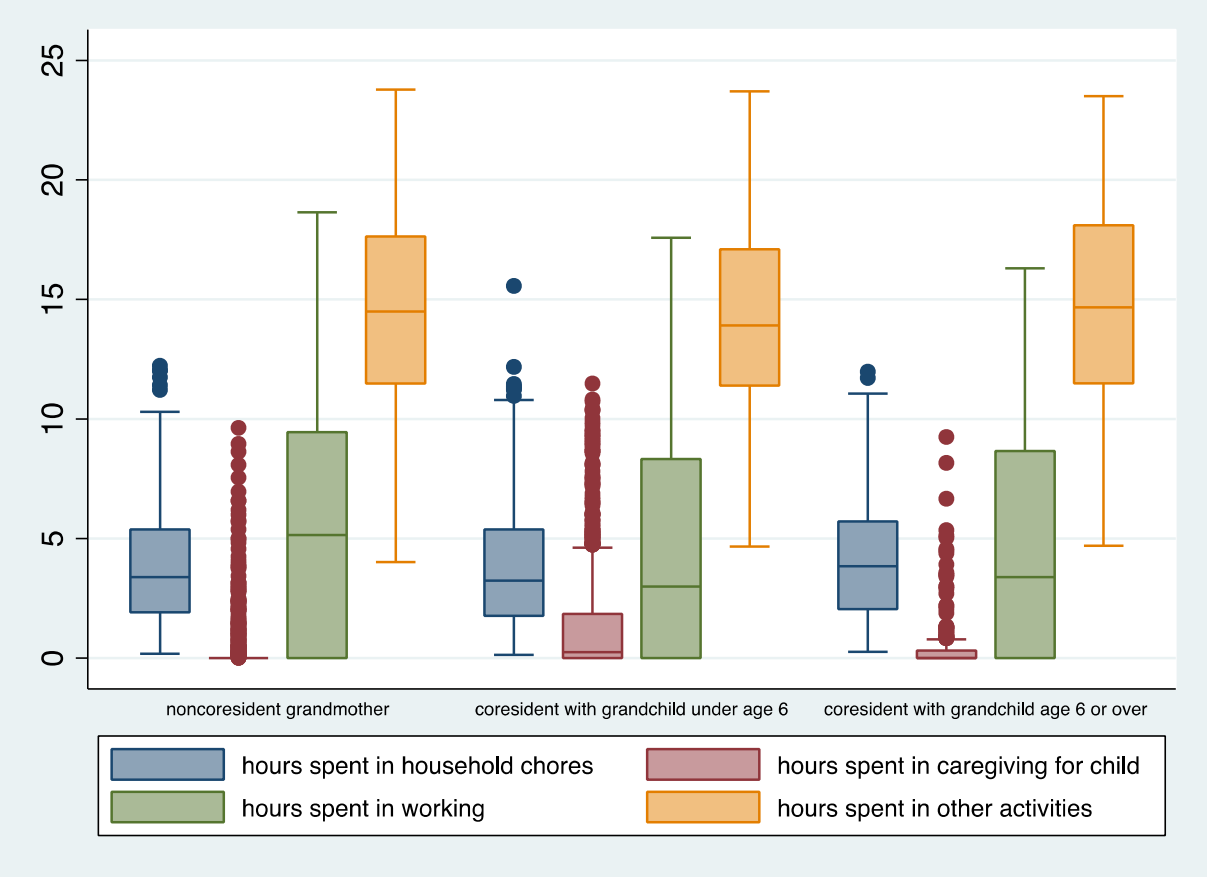
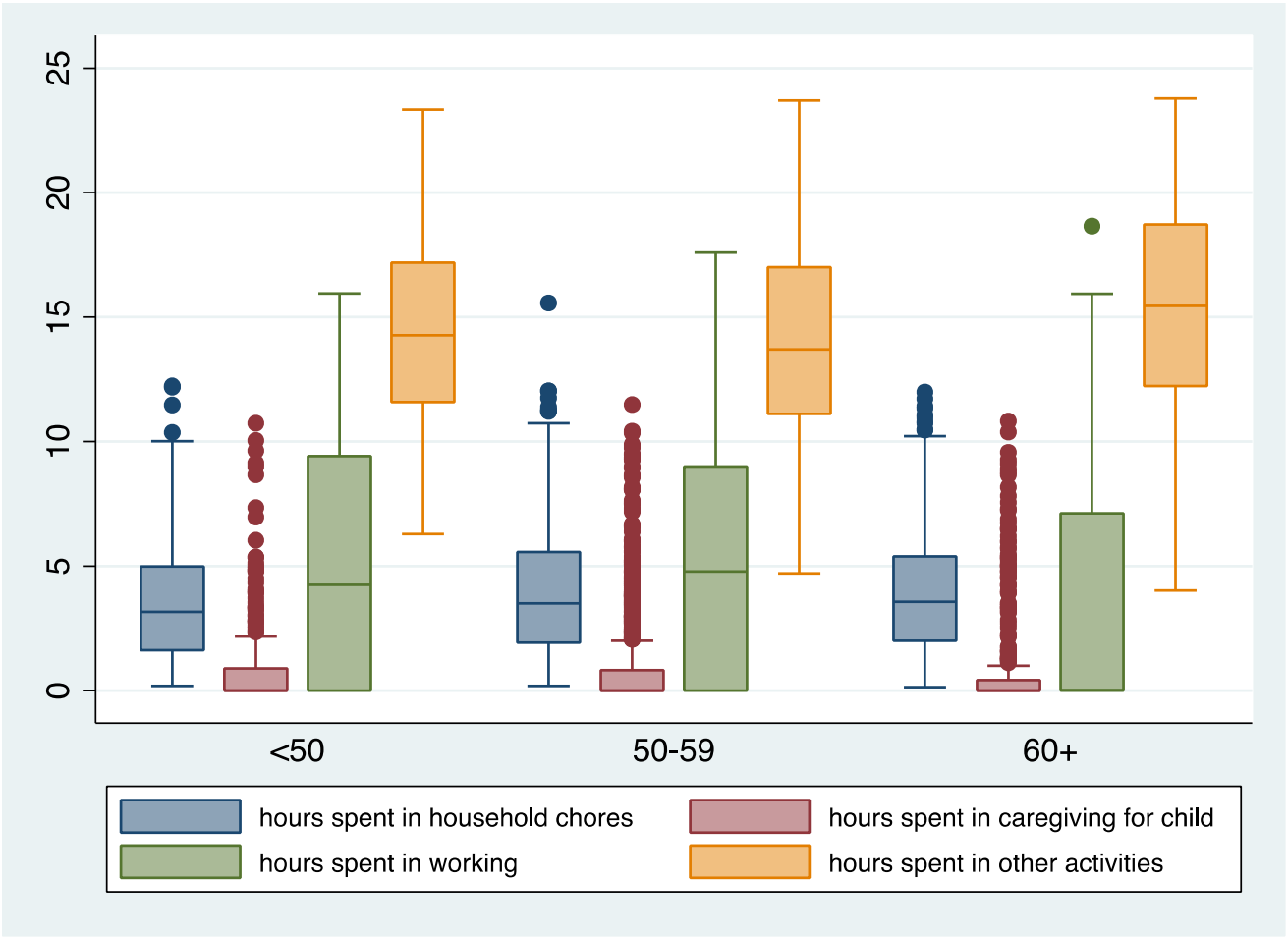


Figure 3. Boxplot Display of Daily Time Use on Specific Tasks by Grandmother's Age CLHNS 2012 (N=1,701)



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