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The time-intensity of childcare provided by older immigrant women in the U.S

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Abstract

Older adults comprise an increasing share of new legal admits to the U.S. While many are financially dependent on their families, a more complete picture requires taking into account the non-monetary contributions of this population. Using the American Time Use Survey (ATUS), this study examines whether older recent immigrant women provide more unpaid childcare than their native-born and more established immigrant counterparts. Results suggest that while older recent immigrant women are more likely to provide unpaid childcare, this effect is eliminated upon controlling for demographic characteristics. However, among those who do provide childcare, older recent immigrant women provide more hours of care even after controlling for demographic and household characteristics. This pattern holds up even after restricting the analysis to women living with young children. These results may signal reciprocal supportive networks. Working-age adults may financially support older recent immigrants while older recent immigrants provide unremunerated childcare for working-age adults.

Keywords

childcare; time-use; grandparents; immigrants

Introduction

Immigrants make up an increasing share of U.S. older adults. Between 1990 and 2010, the number of immigrants aged 65 and older in the U.S. rose 70% from 2.7 million to 4.6 million and their share of this age group is expected to continue to grow (Population Reference Bureau, 2013). This development holds important economic implications. Studies show that older immigrants disproportionately consume certain public programs such as Supplemental Security Income (SSI) (Smith & Edmonston, 1997) and subsets of these older immigrants are heavily dependent on family (Angel, Angel, Lee, & Markides, 1999; Van Hook & Glick, 2007).

A more complete picture, however, requires taking into account the non-monetary contributions of this population. Qualitative studies suggest that older adults sometimes travel internationally to care for young grandchildren, allowing their adult children to remain in the labor force (Toro-Morn, 1995; Treas, 2008; Xie & Xia, 2011; Zhou, 2013a). While

valuable contributions, these studies are based off of non-representative samples and do not document how often this occurs. These studies also do not quantify the amount of childcare that is provided. This latter omission is important as the amount of childcare reflects its physical and emotional toll and tangibly influences a household budget.

The present study contributes to this discussion by examining the amount of unpaid childcare older recent immigrant women provide using a nationally representative sample. It models both the probability of providing care and the amount of care that is provided as a function of duration in the U.S. while controlling for demographic characteristics, and family and social context. In this way, this study departs from previous efforts by quantifying a phenomenon largely restricted to qualitative interviews and small sub-group analyses.

Background

The price of childcare has increased notably in recent decades. Between 1985 and 2011, the real weekly amount spent on childcare rose 70%, with poorer families spending a larger fraction of their income on childcare than wealthier families (Laughlin, 2013). In light of these costs, informal childcare provided by friends and family may be an important resource for families balancing children and work.

Certain immigrant groups have been shown to rely on extended family in grappling with these challenges. In one study, Latino immigrant subgroups with small children were more likely to live in extended family households than those without small children, suggesting that extended family helped with domestic work (Blank & Torrechilha, 1998). Brandon (2002) supports this finding showing that almost ten percentage points more preschool children from immigrant families are cared for by family members than those who are not from immigrant families.

Older adults sometimes migrate internationally specifically to care for young children. Working-class Puerto Rican women in Chicago brought relatives from abroad to help care for their children while they worked (Toro-Morn, 1995). Older Chinese adults in one Midwestern city quit professional jobs in their home country to care for grandchildren in the U.S. (Xie & Xia, 2011). Older adults in Southern California even purposefully navigated U.S. immigration policies in order to provide care (Treas, 2008). These tactics included returning home only when their six-month visas expired and couples staggering their visits to the U.S. so that one spouse was always present to care for grandchildren (Treas, 2008). In this way, these migrants serve as what Zhou (2013b) refers to as “‘flexible’ mobile caregivers (p. 292).”

The literature suggests that older women are more likely to make a journey for this purpose than men. Among Mexican immigrants, family considerations serve as a greater impetus for international migration for females than males (Cerrutti & Massey, 2001). This pattern may also apply to older immigrants. Kanaiaupuni (2000) hypothesizes that labor force exit may signal the end of migration for men and the beginning of a migration trajectory for women traveling for the first time to help adult children abroad.

Existing studies lend credence to this hypothesis. Older British women in Australia admitted that grandchildren exerted a stronger influence over their migration decisions than even their adult children (Percival, 2013). Older American expatriates expressed a similar sentiment. One male expatriate stated that “The women go back because they're married to their grandkids...The husbands go back because they're still married to their jobs (Banks, 2009, p. 178).” These studies describe the strong pull of family context in prompting older women to migrate internationally to provide care.

These studies do not, however, enlighten our understanding of the *amount of care* that is provided. This latter outcome holds important implications both for the family dynamics of immigrant households and their household budget. Mueller, Wilhelm, and Elder (2002) find that the amount of time grandparents spend with their grandchildren is directly related to their influence over their grandchildren's lives. The more time they spend with grandchildren, the greater the platform on which immigrant grandparents can transmit cultural values, family recipes, and language across generations (Treas & Mazumdar, 2004).

There are also direct economic implications associated with the amount of childcare that recent immigrants provide. The Bureau of Labor Statistics (2014) reports that, on average, the mean hourly wage of a childcare worker in the U.S. is \$10.33. A household that pays for 15 hours of childcare a week spends about \$8,000 annually. If this household scales back just one hour a day and pays for ten hours of childcare a week, the annual amount diminishes to \$5,372. Thus, even minor adjustments in the amount of paid childcare can significantly affect household finances. For these reasons, the present study rests on the premise that it is at least equally important to understand the amount of childcare provided as it is to understand whether or not care is provided.

The tendency to provide unpaid childcare may differ based on the number of years immigrants have been in the U.S. Duration in the U.S. is associated with higher employment levels (Chiswick, Cohen, & Zach, 1997), poorer self-reported health (Acevedo-Garcia, Bates, Osypuk, & McArdle, 2010) and adoption of various American behaviors (Gordon, 1964), factors which may erode the ability and/or willingness of foreign-born older adults to care for young children. In addition, those who have been in the U.S. longer may be more likely to establish social and economic ties that crowd out the amount of time they have available to care for children. The sparse qualitative studies on the provision of childcare by immigrant grandparents suggest that newly arrived older adults are more likely to provide care. The older adults in these studies were often not established immigrants who had lived in the U.S. many years but rather, left their homeland specifically to care for children (Treas, 2008; Xie & Xia, 2011).

There is scant quantitative information, however, on whether or not this is the case. Much of the quantitative childcare literature is limited to care provided by parents (e.g., Bianchi, 2000; Yeung, Sandberg, Davis-Kean, & Hofferth, 2001) and ignores care provided by non-parent family members (Folbre, Yoon, Finnoff, & Sidle Fuligni, 2005). This is the case even as the presence of grandparents as childcare providers has increased over the last several decades. The proportion of preschoolers whose primary care arrangement was grandparents increased from 15.9% in 1985 to 21.1% in 2011 (Laughlin, 2013). The few studies that look

at time–use on non-parent childcare do not focus on care provided by older adults (e.g., Folbre et al., 2005; National Institute of Child and Human Development Early Child Care Research Network, 1997).

This lack of quantitative information on childcare provided by older adults leaves a notable gap in our understanding of its intensity. Studies based on open-ended interviews suggest that childcare can be physically and emotionally taxing (Xie & Xia, 2011; Zhou, 2013b). One quote from an 84-year-old Filipina caring for her son's five-year-old twins illustrates this point:

“If I am caring for the kids, I wake up early and give them food and drink. I cook for the kids because the parents work. I care and bathe them. I make lunch and rest when they go to school. But I don't rest much because I clean, wash clothes and then fold laundry. Then they come home and I change their clothes and give them food. Then I cook again for dinner, wash dishes and then I sleep. I sleep with the twins on either side (Treas & Mazumdar, 2004, p. 111).”

This quote suggests that immigrant childcare providers are not fun seekers whose grandparent role revolves around playing with their children as a leisure-time activity (Neugarten & Weinstein, 1968). Rather, it suggests they take on the bulk of domestic work to assist their adult children assimilate to life in the U.S.

Model specification

This study enlightens our understanding of these issues by quantifying the amount of time older recent immigrant women spend caring for other people's children without pay while controlling for factors deemed important in the literature. Conceptually, these variables are best grouped into individual-level controls that account for personal traits possibly influencing patterns in childcare and household-level controls that regard family and social context. Among the most salient individual-level predictors is ethnicity. The literature documents ethnic differences in the level of satisfaction experienced from contact with grandchildren and expectations of intergenerational assistance (Bengston, 1985). Age was also controlled for given age variation in activity limitations (Centers for Disease Control and Prevention, 2014) and perceptions of grandparenting (Neugarten & Weinstein, 1968). Education was included in the models since it is associated with use of senior centers (Krout, Cutler, & Coward, 1990; Ralston, 1984), leisure-time physical activity (Wilcox, Castro, King, Housemann, & Brownson, 2000) and possibly other activities that potentially crowd out the amount of time older women have available to provide care. For this same reason, the models control for employment status. Marital status was included since it may influence the provision of childcare in multiple ways. In attending to their household responsibilities, married women may have less time available to care for young children. Conversely, to the extent that they may be more likely to have children, they may provide more care. Unfortunately, it was not possible to control for the respondent's total number of children. However, several household-level variables are included to adjust for some of the variation in social and family context. The models control for the presence of young children (Craig & Bittman, 2005) and other adults in the household (Tienda & Glass, 1985) as both are significant predictors of domestic work. An indicator was added for whether the

respondent lived with an adult child given immigrants' tendency to live with family (Angel et al., 1999; Wilmoth, 2001). Family income was also included under the justification that individuals within households with greater resources may have the means to pay for childcare rather than rely on unpaid childcare. The models also control for survey year to account for temporal variation in the provision of care.

By controlling for these characteristics, this study provides a quantitative supplement to the qualitative literature on this topic that intimates the demanding nature of childcare provision among older immigrants.

Methods

Data

This study employs the American Time Use Survey (ATUS) (Hofferth, Flood, & Sobek, 2013) pooled across 2003 to 2013. The ATUS is a nationally representative survey sponsored by the Bureau of Labor Statistics on time-use among the 15 and older population in the U.S. ATUS respondents are randomly selected from the group of households that completed the final interview for the Current Population Survey (CPS). Respondents are interviewed one time two-to-five months after completing the CPS about how they spent their time in the previous day. The day of the week (or weekend) is randomly assigned to each respondent and incorporated into the sampling weights so that each day is accurately represented. Their responses on time-use are linked to those they provided during the CPS interview.

Sample

The sample consists of non-Hispanic White, non-Hispanic Asian and Hispanic women aged 50 years and older who completed the ATUS interview (N=29,629). Other ethnic groups were excluded due to restrictive sample sizes that, when disaggregated by nativity status and duration in the U.S., did not allow for appropriate model diagnostics. For example, only 24 women who arrived to the U.S. within the previous 10 years self-identified as African American.

Dependent variables

The dependent variable is the total number of minutes the respondent reported engaging in primary childcare activities in the previous day while children under 18 were present and secondary activities while having at least one child under 13 under her care. Primary childcare activities include providing physical care for children, reading to children, producing arts and crafts with children and other activities through which the respondent directly cared for a child. Secondary childcare activities are those conducted while a child under 13 was under the respondent's care. They can include running errands, leisure or any other activity during which at least one child under 13 was under the respondent's care. Including both types of care is important since secondary childcare constitutes a significant portion of all childcare (Folbre & Yoon, 2007). Secondary childcare is captured through a series of questions asking respondents if a child under 13 was under her care while she performed the activity. These questions were not asked for children 13 years and older since

they require little supervision (Kimmel, 1998) and secondary care is presumably minimal for this population. If the respondent simultaneously provided both primary and secondary childcare, only one type of care is included.

As there is already a substantial literature on paid childcare among immigrant women, only unpaid primary and secondary childcare is included in this definition. Unlike most other studies on time-use and childcare (Folbre et al., 2005), this study includes childcare provided to non-household children as well as household children.

Only care provided to non-own children is included. Similar to other studies on non-parental childcare (e.g., Folbre et al., 2005; Tienda & Glass, 1985), the exact relationship between the care recipient and the care provider could not be determined for all observations. The ATUS documents the exact relationship between the care provider and recipient only when both reside within the same household. The only information available for non-household children is whether they were the respondent's own child and whether they were under 18. The ATUS categorizes the respondent's children who are not living in the household as "own non-household child less than 18." Other non-household children are categorized as "other non-household family members under 18" and "other non-household children under 18." Not knowing the exact relationship between the child and the respondent, however, does not undermine the main goal of this study: to examine the degree to which recent immigrant women assisted others in caring for their children without pay.

A childcare provider is defined as someone who provided at least 30 minutes of care to children who were not her own in the previous day. Those who did not provide childcare or provided less than 30 minutes of childcare are assigned a value of 0 while those who provided at least 30 minutes of childcare are assigned a value of 1. Respondents who provided less than this amount of care are presumably only minimally affected in their daily lives and may be more likely to provide care only sporadically. A continuous form of childcare is used to measure the intensity of childcare. The continuous variable only includes women who provided at least 30 minutes of care. As this variable was positively skewed, it was log-transformed to conform to Ordinary Least Squares (OLS) assumptions. Normality was assessed with standardized normal probability plots.

Independent variables

The independent variable of interest is whether the respondent arrived to the U.S. within the previous 10 years. This question was asked during the CPS interview and is measured by a question asking "When did you come to live in the United States?" The CPS provides year of entry into the U.S. as an interval. These intervals range from 10 years for those who entered between 1950 to 1959 to two years for respondents who entered in recent decades. One year within the corresponding interval is randomly chosen and subtracted from the survey year to estimate the number of years since she arrived.

Consistent with other studies (e.g., Ku, 2009; LaLonde & Topel, 1991), a recent immigrant is defined as someone who had been in the U.S. less than 10 years (N=277). Immigrants who have been in the U.S. a longer time frame differ from their recent immigrant counterparts on numerous fronts including employment patterns and health conditions,

factors that may influence the propensity to care for children. Hence, migrants with 10 or more years of U.S. residence (N=3,346) are treated as more established immigrants who may behave similar to native-born women (N=26,006). It should be noted that while 10 years is a common cut-off point used in the literature, differential patterns across groups may be driven by other thresholds, such as five years at which point legal permanent residents are able to become citizens. However, the small number of recent migrants did not allow for testing this threshold.

Ethnicity is derived from two variables. Respondents who reported being White only or Asian only and did not self-identify as being Hispanic are coded as non-Hispanic White and non-Hispanic Asian, respectively. Respondents who reported Hispanic origin and any other race are coded as Hispanic. Of the 3,304 Hispanics in the sample, 3,132 self-identified as White, 75 self-identified as Black only, 39 self-identified as American Indian, Alaska Native, 15 self-identified as Asian only, 4 self-identified as Hawaiian Pacific Islander only and 39 self-identified as more than one of these categories. As age was top-coded at 85, the models control for 10-year age increments. Indicators were added for whether the respondent lived with at least one child under age 6, at least one child aged 6 to 12 and at least one child aged 13 and older based on age demarcations deemed important in the literature. The presence of a child under 6 creates significant time constraints while 13 is considered the standard age at which children require only minimal supervision (Kimmel, 1998).

Similar to other studies (Acemoglu, & Pischke, 2001; Gerdtham & Johannesson, 2001), family income is measured as the tertile in which the respondent's household income fell during that survey year compared to that of all other women aged 50 years and older. Family income was the only control variable in this analysis that was obtained during the last CPS interview and not updated during the ATUS interview. As in other studies on older adults (e.g., Smith, 1995), a substantial number of respondents were missing data for this construct. Borrowing from Flippen and Tienda (2000), observations with a missing value for family income were recoded into a separate category to help assure unbiased estimates. The models also control for the number of adults in the household. A dummy for providing care on a weekday and an indicator for whether the respondent had a child under 18 (7% of the sample) were tested but did not improve model fit and were left out of the regression models. Missing values (except for family income 2003–2009) were imputed by the Bureau of Labor Statistics using either relational, longitudinal assignment or hot-deck allocation (see Minnesota Population Center (2015) for details).

Statistical analysis

Differences in categorical control variables were tested using a Rao-Scott chi-squared test. Analysis of variance (ANOVA) was used to test differences in continuous control variables. Since the purpose of these comparisons was to assess covariate balance across groups and not model selection, pairwise differences in control variables (i.e., between recent immigrant women and non-recent immigrant women, and between recent immigrant women and native-born women) were not tested. Pairwise descriptive differences in the outcomes were conducted using an OLS regression of childcare minutes (untransformed) on duration in the

U.S. without adjusting for any control variables. Following Armstrong (2014), these pairwise differences were not adjusted for multiple testing since they are exploratory outcomes that are more rigorously tested via multivariate regression in subsequent analyses.

The probability of being a childcare provider is predicted via probit regression. Average marginal coefficients are presented to facilitate interpretation. To determine how accurately the full model predicted whether a respondent was a childcare provider, predicted probabilities were first generated for each observation. Those whose predicted probability was greater than or equal to 50% were then coded as childcare providers and those whose probabilities were lower than 50% were coded as not being childcare providers. The model correctly assigned 92.3% of observations.

The log number of minutes of childcare that were provided is predicted via OLS regression. Secondary and primary childcare are not examined separately in a regression context due to the large number of women who only provided primary childcare (77.3% of childcare providers). Visual inspection of a standardized normal probability plot indicated that residuals were normally distributed. This outcome was also tested on the subset of women living with children under 13 in order to mitigate the effect of unobservable characteristics associated with these living arrangements. All estimates are weighted using ATUS-provided survey weights. Domain analysis was used since the sample is restricted to White, Asian and Hispanic women aged 50 years and older and analysis on subpopulations can lead to biased estimates (Korn & Graubard, 1999). Under domain analysis, a sample weight of zero is assigned to observations that are not in the subpopulation of interest instead of excluding them altogether to correct variance estimators.

Results

Table 1 displays striking sociodemographic differences between recent immigrant women, non-recent immigrant women and native-born women. A much higher proportion of native-born women self-identified as non-Hispanic White (95.8%) compared to non-recent immigrant women (36.9%) and those who arrived less than 10 years ago (24.2%) ($p < 0.001$). Native-born women were also generally older than immigrant women. Approximately 40% of native-born women were aged 50 to 59 compared to 44.4% of non-recent immigrant women and 52.8% of recent immigrant women ($p < 0.001$). Immigrant women were less educated than native-born women. Only 20.5% of recent immigrant women completed college compared to 21.6% of non-recent immigrant women and 25.2% of native-born women ($p < 0.01$). Although the marital and employment status of women from all groups did not differ substantially, pronounced differences existed in family income and other household-level characteristics. Approximately 35.9% of recent immigrant women lived in a household at the bottom of the family income distribution for that year compared to 26.0% of non-recent immigrant women and 21.0% of native-born women ($p < 0.001$). This is the case even as the mean number of adults in the household was highest for recent immigrant women ($p < 0.001$).

Perhaps most importantly, recent immigrant women were more likely to live in a household with at least one young child. Approximately 10% of recent immigrant women lived in a

household with at least one child under 6, compared to 5.0% of women with over ten years of U.S. migration experience and only 1.5% of native-born women ($p < 0.001$). These numbers are 11.1%, 5.1% and 1.8%, respectively, for those living in a household with a child between 6 and 12 years of age ($p < 0.001$) and 9.4%, 2.8% and 1.5% for those living in a household with a child between the ages of 13 and 17 ($p < 0.001$).

Unadjusted differences in childcare across groups

Unadjusted results suggest that recent immigrant women are more likely to provide unpaid childcare and provide *more minutes* of care than the native-born and more established immigrant women. As shown on table 2, weighted pairwise comparisons between groups show that a higher proportion of recent immigrant women were childcare providers (14.0%) than both non-recent immigrant women (8.4%) ($p < 0.01$) and native-born women (8.0%) ($p < 0.001$). Moreover, among caregivers, native-born women cared for non-own children approximately 3.5 hours (207 minutes) in the previous day compared to almost five hours (294 minutes) for non-recent immigrant women and 7.5 hours (450 minutes) for recent immigrant women. Both differences, that between recent immigrant women and non-recent immigrant women, and between recent immigrant women and native-born women were statistically significant at the 5% level. The results on table 2 also show that these differences were mainly driven by secondary childcare. Recent immigrant women provided more minutes of secondary childcare than both non-recent immigrant women ($p < 0.05$) and native-born women ($p < 0.001$) but there were no differences in primary childcare.

As previously mentioned, it was not possible to ascertain the exact relationship of the child for whom the respondent provided care for non-household children. However, there is reason to believe that most childcare was provided to grandchildren. The bottom panel of table 2 shows the proportion of all primary childcare activities conducted with children in different relationship categories. This table shows that while recent immigrant women spent most of their time caring for grandchildren within the household (65.3%), native-born and more established immigrant women spent most of their time caring for non-household family members under 18 (74.8% and 54.9%, respectively). This category may include grandchildren who were not living with the respondent although this cannot be established from the data.

The probability of providing care

The results from table 3 suggest that even before introducing household-level factors, individual characteristics explain away the penchant for older recent immigrant women to be childcare providers. Table 3 models the probability of being a childcare provider as a function of the variables listed in table 1. Model 2 includes individual-level predictors while model 3 adds household-level control variables. Results suggest that upon controlling for individual characteristics, recent immigrant women were just as likely to be childcare providers as non-recent immigrant women and native-born women.

Other individual-level variables that were significant were age and education. In the full model (model 3), the predicted probability of being a childcare provider was slightly higher (1.2 percentage points) for women aged 60-69 compared to women aged 50-59 and was 3.6

and 6.6 percentage points lower for women aged 70-79 and 80 and older, respectively. These results provide a suggestive link between retirement and caring for a child. Those with a college education were slightly less likely to be childcare providers than those without a college education (2 percentage points).

Certain household-level predictors were also significant. The greater the number of adults in the household, the lower the probability of providing at least 30 minutes of childcare (model 3). Table 3 also shows that the presence of children, particularly those under 13, significantly influences the probability of being a childcare provider. Those living with at least one child under 13 were 19 percentage points more likely to have cared for a child for at least 30 minutes in the previous day than those not in such living arrangements. This was also the case for women living with a child between 13 and 17, albeit to a much lesser extent (5.9 percentage points).

Intensity of childcare

While illustrative, the models on table 3 do not account for the unobserved characteristics associated with being a childcare provider. Childcare providers may differ from non-childcare providers in their family relationships, personality traits and other unobserved characteristics, traits which may also differ by recent immigrant status. Table 4 reduces this variation by restricting the analysis to women who provided at least 30 minutes of care in the previous day. Table 4 presents results of a **weighted** OLS regression of the natural log of childcare minutes on time since arrival and numerous controls among those who provided at least 30 minutes of care. Results suggest that among childcare providers, women who had been in the U.S. less than 10 years provided 29.7% more minutes of childcare in the previous day than immigrant women who had been in the U.S. 10 or more years and 39.2% more childcare than native-born older women after even controlling for individual- and household-level factors (model 3).

The only statistically significant individual-level predictor in this model was employment status. Not surprisingly, employed women provided 15.6% less childcare minutes than women who were not employed (model 2).

As table 4 reveals, a highly significant predictor of log childcare minutes is living in the presence of a child under 13. Older women living with a child under 6 provided 78.8% more care while those living with a child between 6 and 12 provided 76.0% more childcare than those not in such living arrangements (model 3). Interestingly, women living with at least one child aged 13 to 17 provided 23.8% less care, on average, suggesting that older children took up some of the responsibility of caring for younger children.

Because the vast majority of older women did not live in households with children under 13, it could be argued that a more rigorous test of the effect of recent immigrant status on the probability of being a childcare provider would be re-analyzing the subset of women who lived with a child under 13. To assess this possibility, model 3 on table 3 was applied to the subset of women living with at least one child under 13. Results from this analysis show that even among women who lived with at least one child under 13, recent immigrant women

provided 52.1% ($p < 0.001$) more childcare in the previous day than native-born women and 35.3% ($p < 0.001$) more than their more established immigrant counterparts (not shown).

Discussion

This study offers new insights into the role of immigrants in providing childcare in the U.S. While immigrants are overrepresented in the formal childcare workforce (Singer, 2012), this article presents quantitative evidence of their participation in the informal childcare workforce. This study finds that while recent older immigrant women are more likely to provide unpaid childcare than native-born and non-recent immigrant women, this effect is eliminated upon controlling for ethnicity, age, education, and marital and employment status. However, among women who do provide care, recent immigrant women provide more minutes of care even after controlling for these as well as household-level factors. This pattern holds up even upon restricting the analysis to women who lived in households with at least one child under 13, a variable with a powerful effect on the probability of providing childcare (Craig & Bittman, 2005).

These results corroborate qualitative studies describing the demanding nature of informal childcare provided by older immigrants (Treas & Mazumdar, 2004; Xie & Xia, 2011; Zhou, 2013b). Results show that recent immigrant women provided almost a full workday of unpaid childcare in the previous day (7.5 hours), significantly more than non-recent immigrant women (4.9 hours) and native-born women (3.5 hours). Assuming most of this care is provided to grandchildren, these results suggest that older recent immigrant women are not what Cherlin and Furstenberg (1985) refer to as fun-seeker grandparents whose grandparent-grandchild relationship is based on play and leisure. Rather, older recent immigrant women more closely conformed to what the authors refer to as surrogate parents who assume significant responsibility in caring for grandchildren.

The volume of care they provide potentially generates significant savings for immigrant households. Similar to other studies (Blank & Torrechilha, 1998; Tienda & Glass, 1985), these results suggest that immigrant women help redistribute household responsibilities in order to ease household time and budget constraints. If one assumes respondents provide childcare five days a week 50 weeks out of the year, recent immigrant women provide 1,875 hours of unpaid childcare a year. Multiplying this total by the average wage of a childcare worker in the U.S., \$10.33 (Bureau of Labor Statistics, 2014), shows that recent immigrant women generate close to \$20,000 a year in savings. Obviously, these savings must be weighted against the costs associated with housing these older adults. This is not a full cost-benefit analysis but rather, a simplified calculation to illustrate the potential magnitude of their indirect monetary contributions.

Results also show that differences in the total amount of childcare provided are driven by secondary childcare. While there were no differences across groups in the amount of time they engaged in primary childcare activities, recent immigrant women provided more secondary childcare than both native-born and non-recent immigrant women. This finding may be explained by the tendency for recent immigrant women to assist with the domestic responsibilities such as cleaning, washing, cooking, laundry and other domestic

responsibilities in addition to caring for grandchildren (Treas, 2008; Treas & Mazumdar, 2004; Xie & Xia, 2011). It is possible that childcare is part of a myriad of domestic responsibilities for recent older immigrant women but represents an isolated activity for other women. A more detailed analysis of all childcare activities is required to determine if this is the case.

Results also show that recent immigrant women who were childcare providers primarily cared for grandchildren living in the household. In contrast, more established immigrant and native-born women who were childcare providers primarily cared for non-household relatives under 18. These relatives were potentially grandchildren who were not living in the household. Hence, while studies describe extended living arrangements as a mechanism through which immigrant households distribute domestic responsibilities (Blank and Torrecilha, 1998; Treas, 2008), the results presented herein suggest that a significant amount of assistance is also provided outside of the household. This finding is consequential given that immigrants are less likely to live with adult children the longer they are in the U.S. (Wilmoth, 2001). These results suggest that even in light of their longer tenure in the U.S. and their greater propensity to live in separate households, non-recent immigrant women who were childcare providers provided close to five hours of childcare in the previous day.

It is important to note important limitations of this study. First, it is associational and cannot be interpreted as causal. The results of the present study suggest that recent immigrant women provide more unpaid childcare than other women but they do not indicate why. It may be the case that older women enter the U.S. specifically to care for children or that they are called upon to care for children because they are recent immigrants. Understanding this mechanism is a worthy future pursuit. Another limitation is that it does not indicate whether migrants were legally present in the U.S. While it often takes many years to obtain legal permanent residence, older adults living abroad who have nonimmigrant visas can more easily travel to the U.S. to accommodate childcare requests. An interesting future research question is the effect of U.S. visa type on the provision of childcare. Yet another limitation is that this study aggregates women of all ethnicities even though there may be important ethnic-specific patterns. Unfortunately, the small number of recent immigrant women in each ethnic group did not allow for this level of specificity. Finally, information on time-use is limited to that of the previous day and does not capture trends in childcare provision. Rather, the amount of childcare reported in this study reflects both sporadic episodes of providing childcare as well as childcare provided on a regular basis. However, since respondents are randomly assigned a day of the week on which to report their time-use, there is some assurance that results equally capture women who provided both types of care.

Despite these limitations, the results of the present study add a new dimension to understanding a long-standing trend in the American labor force: immigrants filling the gap in unmet need for care providers. Among the 15 occupations expected to see the largest growth between 2010 and 2020, four relate to care provision (i.e., home health aides, nursing aides, personal care aides and childcare workers). Immigrants are overrepresented in all of these industries (Singer, 2012). The results of the present study illuminate the importance of older immigrants in providing unpaid informal care, aside from that which they provide with remuneration to the American upper middle-class. These migrants often

make significant personal sacrifices in order to help their adult children with domestic responsibilities in hopes of helping them integrate into U.S. society (Tienda & Glass, 1985; Treas, 2008; Xie & Xia, 2011; Zhou, 2013a). Their contributions should not be viewed as a stopgap solution to America's childcare problem, but rather, should be acknowledged alongside prevailing estimates of their direct economic costs (e.g., Smith & Edmonston, 1997).

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Biography

Biographical sketch: Alma Vega, Ph.D., is a postdoctoral fellow at the University of Pennsylvania's NewCourtland Center for Transitions and Health. Her research focuses on immigrant use of old-age support programs, the retirement patterns of older immigrants and the family dynamics of immigrant households.

Table 1
Weighted descriptive statistics of immigrant and native-born women aged 50 years and older in the United States

	Foreign-born		Native-born
Years in the U.S.	<1-9	10+	
Unweighted N	277	3,346	26,006
<u>Individual-level</u>			
Race (%)			
Non-Hispanic White	24.21 ^{***}	36.87	95.83
Non-Hispanic Asian	26.29	18.74	0.48
Hispanic	49.50	44.39	3.70
Age (%)			
50-59	52.82 ^{***}	44.38	39.50
60-69	34.11	28.52	28.09
70-79	10.4	17.33	20.12
80+	2.67	9.77	12.29
Completed college (%)	20.49 ^{**}	21.64	25.24
Marital Status (%)			
Married/In union	61.57 [*]	60.34	59.40
Widowed	17.20	17.69	20.50
Divorced/Separated	16.51	15.90	14.90
Never married	4.72	6.08	5.19
Employed (%)	42.22	42.53	43.01
<u>Household-level</u>			
Family income (%)			
1 st tertile	35.91 ^{***}	26.04	20.95
2 nd tertile	29.62	27.36	28.53
3 rd tertile	27.48	35.65	38.8
Missing	6.99	10.95	11.71
Mean no. adults in household	2.63 ^{***}	2.28	1.92
(standard deviation)	(1.10)	(1.08)	(0.78)
[range]	[1-7]	[1-8]	[1-7]
Living with 1+ adult child (%)	48.27 ^{***}	32.92	18.23
Living with 1+ children <6 (%)	9.53 ^{***}	5.04	1.49
Living with 1+ children 6-12 (%)	11.10 ^{***}	5.07	1.81
Living with 1+ children 13-17 (%)	9.35 ^{***}	2.76	1.46

* p<0.05,

** p<0.01,

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p<0.001 indicate a statistically significant difference across groups.

Source: Author's calculations using the American Time Use Survey (ATUS), 2003 to 2013.

Notes: Estimates weighted using ATUS-provided survey weights. Differences in categorical variables are tested using a Rao-Scott chi-squared test. Differences in continuous variables are tested using analysis of variance (ANOVA). Pairwise differences across groups (i.e., between recent immigrant and non-recent immigrant women, and between recent immigrant and native-born women) were not tested as the purpose of this table is to assess covariate balance rather than model selection.

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Table 2
Characteristics of childcare provided in the previous day to non-own children by native- and foreign-born women in the United States aged 50 years and older

Years in the U.S.	Foreign-born		Native-born
	<1-9	10+	
Unweighted N	277	3,346	26,006
<u>Not a child care provider</u>			
No childcare (%)	84.46	90.48	90.46
[1-29 minutes] (%)	1.54	1.09	1.51
Total	86.00	91.57	91.97
<u>Child care provider</u>			
[30 minutes – 4 hours] (%)	4.84	5.03	5.67
4+ hours (%)	9.16	3.40	2.36
Total	14.00	8.43*	8.03**
Mean minutes of total childcare	450.11	293.99***	206.85***
(Standard deviation)	(292.07)	(259.60)	(194.97)
(Standard error)	(52.93)	(19.16)	(4.78)
[Range]	[30-930]	[30-992]	[30-1035]
Mean minutes of primary childcare	114.52	116.64	138.95
(Standard deviation)	(113.63)	(125.71)	(123.32)
(Standard error)	(17.94)	(8.98)	(3.50)
[Range]	[0-480]	[0-746]	[0-968]
Did not provide primary childcare (%)	21.47	18.73	6.01
Mean minutes of secondary childcare	335.58	177.35**	67.91***
(Standard deviation)	(301.12)	(257.85)	(175.68)
(Standard error)	(55.69)	(19.18)	(3.90)
[Range]	[0-870]	[0-990]	[0-985]
Did not provide secondary childcare (%)	23.29	55.07	81.03
Mean minutes of childcare on weekday	450.38	284.42*	201.85***
(Standard deviation)	(301.94)	(244.81)	(180.41)
(Standard error)	(63.69)	(23.28)	(5.95)
[Range]	[30-930]	[30-900]	[30-975]
Not interviewed on weekday (%)	19.31	24.52	27.12
Mean minutes of childcare on weekend	448.99	323.47	220.31**
(Standard deviation)	(263.18)	(300.33)	(229.15)
(Standard error)	(66.04)	(30.94)	(7.37)
[Range]	[30-870]	[30-992]	[30-1035]
Not interviewed on weekend (%)	80.69	75.48	72.88
Relationship of child cared for (%)			
Household			
Grandchild	65.30	38.25	17.46

Years in the U.S.	Foreign-born		Native-born
	<1-9	10+	
Unweighted N	277	3,346	26,006
Other relative	8.47	0.64	0.97
Other nonrelative	1.18	0.27	0.37
Non-household			
Other family <18	22.60	54.85	74.79
Other non-relative<18	4.54	10.58	8.96

* p<0.05,

** p<0.01,

*** p<0.001 indicate a statistically significant difference compared to recent immigrant women.

Source: Author's calculations using the American Time Use Survey (ATUS), 2003 to 2013.

Notes: All estimates are weighted using ATUS-provided survey weights. A Rao-Scott chi-squared test was used to test differences across groups in the proportion who were childcare providers (i.e., provided at least 30 minutes of care in the previous day). An unadjusted OLS regression of the outcome on duration in the U.S. was used to test differences in continuous variables. Differences in continuous variables were only tested on the subset of women who provided at least 30 minutes of care. Pairwise differences across groups (i.e., between recent immigrant and non-recent immigrant women, and between recent immigrant and native-born women) are not adjusted for multiple testing since the dependent variable is more rigorously tested via multivariate regression in subsequent analyses. The unweighted number of women who were childcare providers is 42 for recent immigrant women, 264 for non-recent immigrant women and 2,198 for native-born women. The relationship of the child whom the respondent cared for is only known for the primary childcare responsibilities. The unweighted number of women who only provided primary childcare responsibilities is 31 for recent immigrant women, 109 for non-recent immigrant women and 519 for native-born women. The unweighted number of women who only provided secondary childcare is 32 for recent immigrant women, 52 for nonrecent immigrant women and 162 for native-born women. The unweighted number of women who provided time-use information on a weekday was 26 for recent immigrant women, 144 for non-recent immigrant women and 1,145 for native-born women. The unweighted number of women who provided time-use information on a weekend was 16 for recent immigrant women, 120 for non-recent immigrant women and 1,053 for native-born women.

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Table 3
Probit model predicting the probability of providing at least 30 minutes of unpaid childcare to non-own children in the previous day for women aged 50 years and older in the United States (average marginal coefficients)

	(1)	(2)	(3)
	β	β	β
	se(β)	se(β)	se(β)
<u>Immigration</u>			
<1-9 years in U.S. (ref.)			
10+ years in U.S.	-0.055 *	-0.032	-0.004
	(0.026)	(0.021)	(0.015)
Native-born	-0.059 *	-0.016	0.018
	(0.025)	(0.021)	(0.015)
<u>Individual-level</u>			
Non-Hispanic White (ref.)			
Non-Hispanic Asian		0.003	-0.013
		(0.014)	(0.012)
Hispanic		0.044 ***	0.008
		(0.009)	(0.008)
Aged 50-59 (ref.)			
60-69		0.010	0.012 *
		(0.006)	(0.006)
70-79		-0.048 ***	-0.036 ***
		(0.006)	(0.006)
80+		-0.082 ***	-0.066 ***
		(0.005)	(0.005)
Completed college		-0.030 ***	-0.020 ***
		(0.004)	(0.004)
Married/In union (ref.)			
Widowed		0.007	-0.013
		(0.006)	(0.007)
Divorced/Separated		0.002	-0.016 **
		(0.005)	(0.006)
Never married		-0.050 ***	-0.055 ***
		(0.005)	(0.005)
Employed		-0.021 ***	-0.018 ***
		(0.005)	(0.005)
<u>Household-level</u>			
1st income tertile (ref.)			
2nd income tertile		0.000	0.0003
		(0.005)	(0.005)
3 rd income tertile		0.006	0.006
		(0.006)	(0.006)
Missing		-0.001	-0.001
		(0.007)	(0.007)
No. adults in household			-0.012 *
			(0.005)

	(1)	(2)	(3)
	β	β	β
	$se(\beta)$	$se(\beta)$	$se(\beta)$
1+ own adult child in household			-0.005 (0.008)
1+ child <6 in household			0.187*** (0.011)
1+ child 6-12 in household			0.190*** (0.010)
1+ child 13-17 in household			0.059*** (0.012)
Dummy for survey year	Yes	Yes	Yes
Unweighted N	29,629	29,629	29,629

* $p < 0.05$,

** $p < 0.01$,

*** $p < 0.001$

Source: Author's calculations using the American Time Use Survey (ATUS), 2003 to 2013. Estimates are weighted using ATUS-provided survey weights.

Table 4
OLS model predicting ln(minutes) of unpaid childcare provided to non-own children in the previous day for women aged 50 years and older in the United States who provided at least 30 minutes of care

	(1)	(2)	(3)
	β	β	β
	se(β)	se(β)	se(β)
<u>Immigration</u>			
<1-9 years in U.S. (ref.)			
10+ years in U.S.	-0.504 **	-0.450 *	-0.297 *
	(0.183)	(0.182)	(0.136)
Native-born	-0.809 ***	-0.613 ***	-0.392 ***
	(0.169)	(0.184)	(0.140)
<u>Individual-level</u>			
Non-Hispanic White (ref.)			
Non-Hispanic Asian		0.402 *	0.203
		(0.169)	(0.142)
Hispanic		0.114	-0.103
		(0.089)	(0.083)
Aged 50-59 (ref.)			
60-69		-0.123 *	-0.059
		(0.050)	(0.047)
70-79		-0.237 **	-0.139
		(0.073)	(0.072)
80+		-0.319 *	-0.128
		(0.125)	(0.120)
Completed college		-0.160 ***	-0.059
		(0.055)	(0.047)
Married/In union (ref.)			
Widowed		0.105	-0.017
		(0.065)	(0.069)
Divorced/Separated		0.121 *	-0.012
		(0.053)	(0.061)
Never married		-0.020	-0.132
		(0.130)	(0.132)
Employed		-0.159 ***	-0.156 ***
		(0.047)	(0.046)
<u>Household-level</u>			
1st income tertile (ref.)			
2nd income tertile			-0.076
			(0.058)
3rd income tertile			-0.133 *
			(0.065)
Missing			0.003
			(0.075)
No. adults in household			
1+ own adult child in household			-0.007
			(0.038)
			-0.106
			(0.072)

	(1)	(2)	(3)
	β	β	β
	$se(\beta)$	$se(\beta)$	$se(\beta)$
1+ child <6 in household			0.788*** (0.071)
1+ child 6-12 in household			0.760*** (0.059)
1+ child 13-17 in household			-0.238** (0.075)
Dummy for survey year	Yes	Yes	Yes
Constant	5.531*** (0.176)	5.469*** (0.196)	5.224*** (0.183)
Unweighted <i>N</i>	2,504	2,504	2,504
<i>R</i> ²	0.030	0.053	0.221

* $p < 0.05$,

** $p < 0.01$,

*** $p < 0.001$

Source: Author's calculations using the American Time Use Survey (ATUS), 2003 to 2013. Estimates weighted using ATUS-provided survey weights.