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Abstract

Objectives:

This study provides new information about the demography of step-grandparenthood in the United States. Specifically, we examine the prevalence of step-grandparenthood across birth cohorts, socioeconomic and racial/ethnic variation in step-grandparenthood, and lifetime exposure to the step-grandparent role.

Methods:

Using data from the Panel Study of Income Dynamics and the Health and Retirement Study, we use percentages to provide first estimates of step-grandparents, describe group variation in the step-grandparent role, and use life tables to estimate the exposure to step-grandparenthood.

Results:

The share of step-grandparents is increasing across birth cohorts. However, individuals without a college education and non-Whites are more likely to become step-grandparents. Exposure to the step-grandparent role accounts for approximately 15% of total grandparent years at age 65 for women; and 14% of total grandparent years at age 65 for men.

Discussion:

A growing body of research finds that grandparents are increasingly instrumental to the lives of younger generations. However, the majority of this work assumes that these ties are biological, with little attention paid to the role of family complexity across three generations. Understanding the demographics of step-grandparenthood sheds light on an overlooked, but growing segment of the older adult population in the United States.

Keywords: Grandparenting, Life Course Analysis, Family Structure

Introduction

More adults today will live to see their grandchildren reach adulthood than a century ago (Uhlenberg, 2005). With the share of grandparents increasing over time, recent research points to the importance of grandparents in shaping grandchildren's outcomes. Grandparents influence grandchildren's socioeconomic well-being indirectly via wealth transfers to parents (Cox and Stark, 2005) and maintain a perceptible influence on grandchildren's social mobility (Chan and Boliver, 2013; Knigge, 2016; Zeng and Xie, 2014). Grandparents frequently provide childcare for young grandchildren, allowing parents – the middle generation – to work and to accumulate savings that improve the latter generations' economic well-being (Compton and Pollack, 2014; Luo et al., 2012). Grandparents are also part of the family social safety net, called upon to assist the younger generation in times of instability and financial hardship (Seltzer and Bianchi, 2013). Yet almost all of the research on grandparenthood is based on *biological* relationships, with little attention paid to *step-grandparents*. Even the most basic demographic characteristics of step-grandparenthood are unknown, with little attention paid to who becomes a step-grandparent and variation in exposure to the step-grandparent role.

Compared to stepfamily ties across two generations, we know comparatively less about the characteristics of families with step-grandparents (Sweeney, 2010). Step-grandparenthood may represent a family institution that remains distinct from stepparenthood in part because step-grandparenthood may be less fraught than the stepparent-child relationship. Grandparents tend to have fewer responsibilities than parents and the arrival of a first grandchild may signal a shifting family role that is celebrated regardless of the relationship to the middle generation. However, it is likely that the meaning of grandparenthood for step-grandparents differs for those with close versus distant relationships to the middle generation. The little research thus far points to a broad range of possibilities for stepparent and step-grandchild relationships (Chapman, Coleman, and Ganong, 2016), but demographically, step-grandparenthood remains understudied.

This paper aims to broaden the scope of what is known about the demography of step-grandparents. We do so by comparing the prevalence of biological and step-grandparenthood across birth cohorts and examining educational and racial differences in step- and biological grandparenthood. In addition, we describe exposure to the step- and biological grandparent role to show their potential significance in later life. We focus on the prevalence of step-grandparenthood across the adult life course from ages 35 and older, combining information from the Health and Retirement Study (HRS) and the Panel Study of Income Dynamics (PSID). In doing so, our paper adds to a growing body of research that examines the demography of grandparenthood (Arpino, Guma, and Julia, 2017; Leopold and Skopek, 2015; Margolis, 2016), but explicitly accounts for the increase in family complexity that has led to the rise in step-grandparent families over the past decades.

Background

There are two ways in which individuals can become a step-grandparent. The first way occurs through the marriage of the grandparent. That is, an individual becomes a step-grandparent by marrying a spouse who has, or will have a biological grandchild through offspring from a previous relationship. The second possibility is that an individual becomes a step-grandparent when her/his biological child marries a partner with children from a previous union.

Historically, changing norms surrounding re-marriage after divorce and cohabitation, which rose dramatically beginning in the 1970s, have led to an increase in blended families. The Baby Boomers were the first U.S. cohort to experience high divorce and re-marriage rates in their early adulthood, and they continue to experience higher rates of marital instability as they enter into their 50s and 60s, compared to older cohorts (Kennedy and Ruggles, 2014; Lin and Brown, 2012). These older adults are also becoming grandparents. Thus, we expect to see step-grandparenthood increase from older to younger cohorts.

However, whereas the vast majority of older Americans are grandparents (Monte, 2017), not all become step-grandparents. Socioeconomic differences in fertility patterns and marital stability contribute to subgroup differences in the likelihood of becoming a step-grandparent. Research shows that college-educated women have fewer children and have children later in life than women with less education (Martinez, Daniels and Chandra, 2012), meaning that these women will likely become grandparents later in life, if at all, compared to those without a college education (Seltzer and Bianchi, 2013). In addition, non-marital childbearing and marital disruption is more common among those who did not complete college (Lin and Brown, 2012; Raley and Bumpass, 2003). Taken together, these trends suggest that women with college degrees tend to have fewer grandchildren and are less likely to have step ties/quasi-step ties to children and stepchildren than those without a college degree.

Significant race/ethnic differences in fertility patterns, non-marital childbearing and divorce also contribute to variation in grandparent and step-grandparenthood. African American and Hispanic women have children earlier than White women and the overall number of children they have also tends to be higher (Hayford, Guzzo, and Smock, 2014). African-American women are substantially more likely to have children outside of marriage compared to Whites (Martinez et al., 2012) and thus more likely to bring children with them into a first marriage. At nearly every age, divorce rates are higher for African American than for White women, and they are generally lowest among Asian and foreign-born Hispanic women (Raley, Sweeney and Wondra, 2015: 92). In later life, Lin and Brown (2012: 739) also show higher rates of divorce among African Americans compared to Whites. Again, these patterns suggest that African-American women in particular are not only more likely to have grandchildren than Whites, but are also more likely to have stepchildren and step-grandchildren as well.

Whereas assessing cohort changes in step-grandparenthood tells us about the rising importance of step-grandparenthood as a family institution, a separate picture of the significance of step-grandparenthood emerges when we begin to understand how it fits into the life course of adulthood. With postponed fertility, delays in biological grandparenthood are now being documented (Leopold and Skopek, 2015), but it is unclear whether or not this is also true for step-grandparenthood. Lin and Brown (2012: 737) find that the divorce rate is much higher among middle-aged versus older adults, which could reflect how older adults are less likely to leave one another after being married for long periods, compared to those in middle age. Individuals may enter into step-grandparenthood in “middle” and “young” old age, versus “old” old age and the timing of when people become step-grandparents is tied to their lifetime exposure to the grandparent role.

Gender differences are also key to understanding how step-grandparenthood fits into the life course. It is possible that for women especially, the first entry into grandparenthood may be step-grandparenthood because of the age difference between heterosexual couples. Thus, it is likely that gender differences in exposure to step-grandparenthood will differ. Women likely become step-grandparents earlier in life than men and in addition to their greater longevity, will be exposed to the step-grandparent role for a longer period of time than men.

The current study

This study asks the following questions: First, how has the prevalence of biological and step-grandparenthood changed over birth cohorts? Given declining and delayed fertility, younger cohorts may be less likely to have any biological grandchildren, while the rise in step and quasi-stepchild relationships should be reflected in a rise in step-grandparent relationships across birth cohorts. Second, who becomes a step-grandparent? We investigate educational and race-ethnic differences in step-grandparenthood compared to biological grandparenthood, and whether family configurations differ across groups. Third, what is the exposure to step- versus biological grandparenthood? Exposure estimates tell us about the prominence of step-grandparenthood in the family lives of adults in the United States.

Data and Methods

Data

We use data from the Health and Retirement Study (HRS) and the Panel Study for Income Dynamics (PSID). The two datasets have complementary strengths. The HRS has a large sample size of adults age 51 and older who are likely to be grandparents. The PSID sample includes individuals between 35 and 50 years old, allowing us to examine individuals and groups who may become grandparents at comparatively earlier ages. Although grandparenthood is determined in the HRS through direct questions about the presence of grandchildren and through questions about the children of offspring, grandparenthood is ascertained in the PSID by relying on the fertility histories of both the respondent and all the respondents' offspring.

We combine the fertility history data with data from the Roster and Transfer module (R & T) of the 2013 PSID. The R & T module asked respondents directly about whether each of their offspring has children of their own, akin to the HRS strategy. By asking the respondent about the offspring's children, both datasets allow us to identify step-grandparents as parents of a stepchild who has become a parent. A drawback to assessing step-grandparenthood in this way is that respondents whose unions have ended may not report on former stepchildren, given the ambiguous social norms surrounding stepkin ties (Coleman et al., 2015; Noel-Miller, 2013). Thus, individuals who are currently married or cohabiting are much more likely to report step-grandchildren, as are women, who in general are considered kin-keepers of the family (Rosenthal, 1985).

The HRS is an ongoing biennial U.S. panel survey that is approximately nationally representative of individuals who are ages 51 and older. We use data from the 2010 cross-sectional sample and specifically combine the RAND N public use file with the RAND Family C data file (Campbell et al., 2014; Chien et al., 2014). This is the most recent RAND Family data file available, and it only includes information through 2010.We include information for all HRS birth cohorts whether or not they had any children at the 2010 survey. Among those with children, we consider only offspring who are still alive in 2010 and those who are aged 18 or older to make our sample comparable with the PSID data. We exclude respondents who were institutionalized in 2010 and a small number of same-sex couple households (n=81 households). To examine parents' biological or step relationship to each of their offspring we use information on "good" links, family data that are evaluated by RAND as reasonably consistent across survey years (Campbell et al., 2014). Our final HRS sample consists of 19,561 individuals.

We broaden our analysis with data from the PSID to identify step-grandparents younger than age 51. The PSID began in 1968 with a national sample of roughly 18,000 people. Its genealogical design follows the original 1968 sample members and their descendants as they form their own households. Weights are available to make the PSID nationally representative of the U.S. population in a given year. Note, however, that immigrants as well as native-born ethnic minorities such as Latinos and Asians are underrepresented in the PSID because of its origin as a sample of individuals in 1968 households (PSID Main Interview User Manual, 2013).

Historically, PSID information about stepparents and nonresident stepchildren was limited, because the PSID does not include information about the characteristics of step offspring unless they live with a sample member. The R&T module fills this gap by obtaining a list of all of the 2013 respondents and spouses/partners' living offspring, biological and stepchildren[1], ages 18 and older, regardless of whether or not they are in the original PSID sample (Schoeni et al., 2015). Unlike the HRS, the PSID does not ask single respondents (those who are neither married nor cohabiting) about stepchildren. This information is reported as not available in our results.

The HRS and the PSID provide valuable information about the prevalence of biological and step-grandparenthood through the marriage of the grandparent, but neither dataset (and no U.S. data more generally) can support an investigation of the prevalence of step-grandparenthood achieved through the latter pathway, or the timing of transitions to grandparenthood and step-grandparenthood. By identifying potential step-grandparents among respondents who are married and identify stepchildren through a spouse, our estimates capture the lower bound of exposure to step grandparenthood.

Methods

We use percentages to describe variation in who is a biological versus step-grandparent across birth cohorts and across individuals of different educational and race/ethnic backgrounds. When percentages are based on sample sizes smaller than 50, we suppress the results in the tables and do not report them in the text. Next, we use life tables to examine exposure to the biological or step-grandparent role. We use the Sullivan method previously adapted to calculate

[1] Because the identification of stepchildren occurs through asking the respondent and current spouse/partner about each adult child in relation to the respondent and spouse/partner, only stepchildren from the current union are identified. Stepchildren from prior unions are not captured.

disability-free life expectancy (Jagger et al., 2007; Sullivan, 1971) and rely heavily on the examples and notation used by Jagger et al. (2007). The Sullivan method is advantageous for our purposes because it has few data requirements. Unlike multistate life tables, which require longitudinal data to study the transition into grandparenthood for specific birth cohorts, the Sullivan method uses age-specific prevalence data on grandparent status (πG_x), which we obtain from the 2010 cross-section of the HRS and the 2013 R&T PSID. In addition, we use mortality data from the U.S. Vital Statistics (Arias, 2014), which provide the person-years lived in each age interval from x to x+n ($_nL_x$). We adjust the U.S. mortality data by fixing the starting point of our life table at age 35. This means that we assume an arbitrary starting number (radix population) of 100,000 at age 35 for the number of individuals surviving to age x (l_x) (see Jagger et al., 2007, p. 6).

Using HRS and PSID data, we calculate the prevalence of grandparenthood at each age interval from x to x+n ($\pi_n G_x$) by the respondent's gender from age 35 to 109, with the PSID contributing observations for ages 35-50 and the HRS contributing to ages 51 and above. The prevalence rates are estimated in five-year intervals with the two exceptions for age groups 45-50 and 51-54 because we choose not to combine the two data sources. We close the life table with an open age interval from age 80 upwards. To arrive at the expected number of years that individuals spend as a grandparent at any given age (eG_x), we use the following steps. First, to calculate the person-years spent in the age interval as a grandparent ($_nLG_x$), we multiply the total years of life spent in each age interval ($_nL_x$) (e.g., 35-39, 40-44, 45-50, 51-554, etc.) taken from the modified U.S. Vital Statistics data (Arias, 2014) by the prevalence of grandparenthood ($\pi_n G_x$) in that interval (Equation 1). Next, we calculate the total person-years lived as a grandparent ($_nTG_x$) by summing across the age intervals above age x (Equation 2). Finally, to calculate the life expectancy of grandparenthood (eG_x), or the remaining years spent at each age interval as a grandparent, by dividing the total years lived as a grandparent at age x (${}_nTG_x$) by the number of individuals surviving to age x l_x (Equation 3). Thus, the entire calculation for life expectancies of grandparents is shown in Equation 4.

Eq. 1 $\quad {}_nLG_x = ({}_nL_x)(\pi_n G_x)$

Eq. 2 $\quad {}_nTG_x = \sum[({}_nL_x)(\pi_n G_x)]$

Eq. 3 $\quad eG_x = {}_nTG_x / l_x$

Eq. 4 $\quad eG_x = \frac{\sum[({}_nL_x)(\pi_n G_x)]}{l_x}$

We perform the same calculations for biological and step-grandparents using prevalence rates of biological and step-grandparenthood from the PSID and HRS and analyze life expectancies of biological grandparenthood and step-grandparenthood separately for men and women. Our adoption of the Sullivan method parallels that of Margolis (2016) who constructs life tables of grandparenthood for Canadians.

Results

Prevalence of biological and step-grandparenthood over birth cohorts

Table 1 compares the prevalence of individuals who are biological and step-grandparents across five different birth cohorts at specific age intervals. Data are drawn from 10 waves of the HRS and information on all cohorts is used. We examine prevalence rates by five-year age intervals, with the exception of the first age interval, which is constructed as a four-year age interval, 51-54. Panel A presents information on biological grandparenthood and step grandparenthood is assessed in Panel B.

TABLE 1 HERE

Looking across the columns in Panel A, the data show that the percentage of individuals who report being biological grandparents increases with age for both genders. The experiences of some birth cohorts are incompletely captured in the HRS, but the age pattern is consistent across cohorts for all ages included in the HRS. For example, among women born between 1931 and 1941, 65.3% of women between the ages of 51 and 54 reported having a biological grandchild and by ages 65-69, 85.5% had at least one biological grandchild.

There are, however, birth cohort differences in grandparenthood. Comparing percentages across the rows indicates a decreasing share of both men and women who are biological grandparents, at least until age 65, when mortality differences across cohorts have a greater effect on the prevalence estimates than at younger ages. The most extreme comparison is between those individuals born between 1931 and 1941, where almost two-thirds (65.3%) of women reported being a biological grandmother between ages 51-54, compared to those bonr between 1954 and 1959, where only 38% of women reported being biological grandmothers at that age. Similar trends are evident for biological grandfatherhood, although the share of men who report being a biological grandparent is lower than women across all cohorts.

It is unclear whether the birth cohort difference is simply a delay in when individuals become biological grandparents, or whether the overall share of biological grandparents is decreasing. By age 65-69, for example, a slightly higher percentage of women born between 1931 and 1941 reported being biological grandmothers (85.5%) than for those born earlier between 1924 and 1930 (81.1%). Still, the share of biological grandmothers at that age dropped again for those born during World War II (1942-1947) (81.0%).

Countering the decline in biological grandparenthood in middle age, Panel B shows an increase in step-grandparenthood across birth cohorts. At each age interval, the percentage who report having a step-grandchild increases with subsequent cohorts. Among women born between 1931 and 1941, 10.9% have at least one step-grandchild by the time they reach ages 51-54. For the most recent birth cohort, those born 1954-59, 14.4% of women are step-grandmothers by that age. Increases for men are similar in direction, but even more dramatic, with 5.5% of men in the 1931-41 cohort having a step-grandchild by the time they are ages 51-54 compared to 13.5% of men in the 1954-59 cohort.

In addition, similar to biological grandparenthood, we see a predominant pattern of increasing step-grandparenthood with age for most cohorts. For example, 13.5% of women born between 1948 and 1953 reported having a step-grandchild at age 51-54; this share increased to 17.7% by age 60-64. Those born between 1931-1941 and during World War II (1942-1947) are the slight exception to this, with small decreases in the share of reporting step-grandchildren for both genders in later ages, compared to younger ages. Gender differences in the likelihood of reporting a step-grandchild also vary across cohorts. In earlier cohorts born before 1931, the prevalence of step-grandfatherhood is higher than the prevalence of step-grandmotherhood at all ages. However, for those born between 1931 and 1947, women are more likely to report having a step-grandchild than men.

Smaller gender differences in reports of step-grandparenthood are apparent for those born between 1948 and 1959. A potential explanation for these patterns may be differences in the likelihood of remarrying across cohorts. A recent Pew study found that although re-marriage is on the rise for both men and women aged 55 and older, men have always been more likely to re-marry than women (Livingston, 2014). Yet the gender gap in remarriage has lessened over time as women are increasingly more likely to remarry following widowhood or divorce.

Characteristics of step-grandparents and biological grandparents

Our second research question asks who becomes a step-grandparent and how step-grandparents might differ from biological grandparents. The next set of tables addresses this question descriptively. Table 2 presents the prevalence of step- and biological grandparenthood by an individual's partner status. We focus on partner status because stepchildren and grandchildren acquired through stepchildren enter a family through marriage or cohabitation. Panel A shows the prevalence rates for those ages 35 to 50 years old in the PSID sample. Panel B shows the results using those ages 51 and older in the HRS sample. In the first row of Panel A, 69.6% of women and 75.5% of men are married or cohabiting between ages 35 and 50. In later life, women (57.3%) are again less likely to be partnered than men (74.3%). The larger gender difference for the older age group is due, in part, to women's higher life expectancy and their lower likelihood of re-marriage compared to men. Among those 35-50 years old, single women are much more likely than single men to be grandmothers (21.4% vs. 9%). This may be due to women's earlier age at childbearing and their greater likelihood to live with and maintain ties to offspring after divorce or nonunion childbearing (Gunnoe and Hetherington, 2004, Stykes, 2011; Sweeney, 2010). Single women over age 50 are also more likely than single men to be grandparents, but the gender gap is proportionately smaller, 70.5% for women versus 53.5% for men ($p<.001$).

Among adults over age 50, the only age group for which the data include single grandparents' reports about stepchildren, 18.8% of women and 15.4% of men who are married or cohabiting have step-grandchildren, compared to only 7.5% of single women and 6.9% of single men who are step-grandparents.[2] The table also indicates whether a grandparent has biological grandchildren only, step-grandchildren only, or both biological and step-grandchildren. Grandparents who have at least one step-grandchild are more likely to have a combination of

[2] Sample sizes for coupled men and women differ due to age differences between spouses (partners).

biological and step-grandchildren than to have only step-grandchildren. For instance, twice as many married or cohabiting women age 51 and older have both biological and step-grandchildren (12.9%) as the percentage who have only step-grandchildren (5.9%). For men who are coupled, the percentage with both types of grandchildren is 75% greater than the percentage with only step-grandchildren. Single women and men are also more likely to have both types of grandchildren than to have only step-grandchildren, but as noted, the step-grandchildren are much less common among those who are single. Because the sample sizes for single men are so small for both the PSID and HRS samples once stratified by education, race and ethnicity, we restrict the remainder of our discussion regarding who is a grandparent to men who are partnered and women who are partnered or single.

TABLE 2 HERE

The next figures present differences in grandmotherhood by educational attainment. Figure 1 shows educational differences in grandparenthood in later life. The left panel focuses on women, showing that those with a high school degree are 50% more likely to have a grandchild compared to women with a college degree. Yet college-educated women remain less likely to report having any step-grandchildren (13.9%) compared to married or cohabiting women with a high school degree (21.3%) ($p<.001$) or less (19.2%) ($p<.001$).

FIGURE 1 HERE

The right panel of Figure 1 shows that educational differences in grandfatherhood for married or cohabiting men at this age follow the same pattern for women; college-educated men report fewer step-grandchildren than men with less than a college degree. However, when comparing men and women, one noteworthy difference is the comparison between college-educated women and men. College-educated men are slightly less likely (10.4%) than women

(13.9%) to report being a step-grandparent ($p<.01$). The reasons for this are likely due to age differences between men and women at remarriage and gender differences in the overall likelihood of re-marrying.

In addition to education, Figure 2 shows race-ethnic differences in grandmotherhood among those aged 51 and older who already made the transition to being a grandmother. The difference between African Americans and others is largest for the percentage with both biological and step-grandchildren, 33.1%, compared to 17.3% of Whites (at $p<.01$) and 12.6% of Hispanics ($p<.01$). More generally, African American grandmothers are 1.8 times as likely to have step-grandchildren compared to Non-Hispanic Whites and are more than twice as likely to have step-grandchildren than Hispanics. In separate analyses not presented here, we assessed whether race/ethnic differences in grandparent type could be explained by group differences in socioeconomic status but found that differences remained even after controlling for respondent's education. Among single grandmothers, however, the distribution of types of grandchildren is more similar across groups. The panel to the right in Figure 2 shows that the share of grandmothers with any step-grandchildren is small across all race/ethnic groups.

FIGURE 2 HERE

Table 3 shows how kinship ties both up and down the generational ladder differ between grandparents of step- or biological grandchildren or both. Among those aged 35-50, partnered grandmothers with at least one step-grandchild are more likely to also have a living parent or parent-in-law than those with biological grandchildren only. For those who are over 50, married or cohabiting grandmothers of step-grandchildren *only* are also more likely to have younger children of their own (9.9%) than grandmothers with biological children only (2.9%) ($p<.001$). The same trend holds true for married or cohabiting grandfathers among those aged 51 and over, where married or cohabiting grandfathers of step-grandchildren *only* are also more likely to have younger children of their own (13.7%) than grandfathers with biological children only (4.3%) ($p<.001$).

TABLE 3 HERE

Exposure to step and biological grandparenthood

Our last research question addresses the exposure to step- and biological grandparenthood that individuals experience as they age. Figure 3 shows that for both genders, the percentage of those who report having a biological grandchild increases with age. The transition to biological grandparenthood occurs earlier in life for women than men; by age 55-59, the majority of women (51.7%) report being a biological grandmother, whereas only 43.5% of men aged 55-59 report being a biological grandfather ($p<.001$). At all ages, the likelihood of having a step-grandchild is much lower than the probability of having a biological grandchild. Although the share of individuals who report being a step-grandparent increases with age, the difference between men and women in the timing of step-grandparenthood is much smaller than the gender gap in biological grandparenthood. By age 55-59, 13.4% of women and 12.6% of men report having a step-grandchild ($p>.05$). However, the share of adults who report being a step-grandparent peaks between ages 60 and 64 at 16.5% for women and 15.6% for men ($p>.05$). The percentage of adults who report a step-grandchild then decreases from 65 onwards as these age groups are represented by older cohorts in our data.

FIGURE 3 HERE

Another way to look at the exposure to step- and biological grandparenthood is through the life table. Table 4 summarizes exposure to the grandparent role through life expectancy estimates of the number of years that adults ages 35 and older can expect to be a biological grandparent or a step-grandparent. Between the ages of 35 and 44, women have approximately 26 years of life remaining as grandmothers, and men have 21 more years as grandfathers. This is significant exposure to the grandparent role. Among those who reach age 65, women between the ages of 65 and 69 will have on average 17 more years as grandmothers, and men will have nearly 15 years as grandfathers. The greater number of remaining years for grandmothers than grandfathers reflects women's greater life expectancy and their earlier transitions to parenthood compared to men.

TABLE 4 HERE

Remaining years as a biological grandparent are slightly less than remaining years as any type of grandparent. However, remaining years as a step-grandparent are considerably lower than remaining years as a biological grandparent or a grandparent of any type. Women between the ages of 35 and 39 can anticipate approximately 5 remaining years of step-grandmotherhood, and for men at this age, approximately 4 years of step-grandfatherhood. Although these numbers are small, they are not insignificant; at ages 35-39, this accounts for 20% of remaining years as a grandparent of any type. That is, every 1 in 5 years spent as a grandparent at this age will be spent as a step-grandparent. Even at ages 65-69, nearly 15% of remaining years as a grandmother are accounted for by years as a step-grandmother and 14% of years as a grandfather can be accounted for by potential years as a step-grandfather.

Discussion

Our results provide a first glimpse of the demographics of step-grandparenthood in the United States. Although recent work has examined how increases in family complexity affect relationships between parents and children in later life (Kalmijn, 2013; Seltzer, Yahirun, and

Bianchi, 2013; Suanet, van der Pas, and van Tilburg, 2013), less attention has been paid to how these patterns connect family members across more than two generations.

Looking at cohort differences in step- versus biological grandparenthood confirms our hypothesis that step-grandparenthood increases from older to younger cohorts, with Baby Boomers at the forefront of this trend. Our results show that among older adults aged 51 and over who are grandparents, approximately 21% of grandfathers have at least one step-grandchild, and nearly 20% of grandmothers have at least one step-grandchild. This is a conservative estimate of the percentage of grandparents who have any step-grandchildren because the PSID and the HRS data allow us to consider only those grandchildren who enter the family because an adult stepchild (of the respondent) becomes a parent. Consistent with previous research on stepfamilies more broadly, we also find that having any step-grandchildren is more common among certain groups – the less well-educated and African Americans – than the better educated and those who are White. Our findings reflect both the higher rates of marital disruption among certain groups and the greater likelihood of remarriage/partnering as well (Cherlin, 2009).

Estimates from our analysis of exposure to the grandparent role suggest that although the share of total years spent as a step-grandparent are relatively small compared to total years as a biological grandparent, they are not insignificant. Even at age 65, 15% of remaining years as a grandmother are accounted for by years as a step-grandmother and 14%, or 1 in 7 years as a grandfather can be accounted for by potential years as a step-grandfather. These “life expectancy” estimates of years remaining as grandparents, provide a useful indicator for step- and biological grandparenthood at the population level, rather than individual-level predictions (Jagger et al., 2007). Since the Sullivan method does not require longitudinal data, the method’s reliance on prevalence rates to estimate exposure to the grandparent role assumes that the rates in question – step- or biological grandparenthood – are relatively stable and do not change over time (Jagger et al., 2007). This has implications for our estimates given that the likelihood of becoming a step- or biological grandparent is changing over time, as demonstrated in our cohort analysis (Mathers and Robine, 1997).

As existing nationally representative, longitudinal datasets do not permit the evaluation of the transition to grandparenthood, future data collection efforts that examine before age 51 and across specific cohorts over time will allow for the use of multistate life tables. Another limitation of this study is that all biological and step-grandparents are grouped together, despite significant heterogeneity in the timing and sequencing in which grandchildren appear, as well as the total number of grandchildren (Arpino, Guma, Julia, 2017).

Despite these limitations, our study provides a first portrait of grandparenthood that takes account of the dramatic increase in exposure to step and quasi-step (through cohabitation) family relationships. These family changes have had important effects on the welfare of younger families, and may influence older families as well. Although in this study we do not address differences in what step- versus biological grandparents do for grandchildren, we did find ties that may signify different obligations to family members by grandparent type. For older partnered men and women, those with only step-grandchildren are far more likely to also have a living parent/in-law and a dependent child under the age of 18 than those with only biological grandchildren. Thus, step-grandparents, in addition to being more socioeconomically disadvantaged, may be less likely to help with the care of grandchildren due to constraints on their time through obligations to others. Although families with step-grandparents may also rely on biological grandparents to assist and help grandchildren, these findings echo prior work that step-grandparents are less involved in caring for grandchildren than biological grandparents

(Author, 2014) and research highlighting weaker ties between step-grandparents and grandchildren compared to biological grandparents and grandchildren (Ganong and Coleman, 1998). More research is needed to understand differences in the ways that step-grandparents assist the younger generations compared to those with only biological grandchildren. We believe this to be a fruitful future area of research for those who are interested in how the family safety net works for individuals with complex families.

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Table 1: Percent of Individuals Who are Grandparents by Gender, Birth Cohort, and Age

	Women							Men						
	51-54	55-59	60-64	65-69	70-74	75-79	80+	51-54	55-59	60-64	65-69	70-74	75-79	80+
Panel A: Biological grandparents														
Birth Cohort														
1923 or Earlier	-	-	-	-	80.6	79.6	78.4	-	-	-	-	81.6	80.9	80.7
1924-1930	-	-	-	81.1	84.4	86.4	86.2	-	-	-	73.6	80.9	84.1	85.3
1931-1941	65.3	76.0	81.7	85.5	87.2	86.5	-	51.8	64.9	75.2	82.0	85.5	85.3	-
1942-1947	53.3	70.1	78.8	81.0	-	-	-	41.2	61.5	72.6	76.6	-	-	-
1948-1953	48.3	62.8	70.1	-	-	-	-	35.6	50.3	58.9	-	-	-	-
1954-1959	38.1	44.0	-	-	-	-	-	30.1	38.0	-	-	-	-	-
Panel B: Step-grandparents														
Birth Cohort														
1923 or Earlier	-	-	-	-	8.1	8.6	8.6	-	-	-	-	13.2	13.3	14.5
1924-1930	-	-	-	7.4	9.2	10.9	11.5	-	-	-	10.3	12.0	13.8	14.7
1931-1941	10.9	11.9	13.8	15.3	15.6	13.4	-	5.5	6.5	9.0	11.6	12.1	10.3	-
1942-1947	11.7	15.6	18.1	16.4	-	-	-	7.8	12.1	16.2	16.8	-	-	-
1948-1953	13.5	17.4	17.7	-	-	-	-	14.0	18.1	18.2	-	-	-	-
1954-1959	14.4	14.2	-	-	-	-	-	13.5	11.4	-	-	-	-	-

Notes: HRS 1992-2010 (Rand Family C file; Rand N file). Weighted using individual weights. "-" denotes inapplicable for the date range (1992-2010) for those particular birth cohorts.

Table 2. Grandparent Type by Gender, Partnership Status, and Age

	Women			Men		
	Single	Partnered	All	Single	Partnered	All
Panel A: Ages 35-50						
Partnership status (row %)	30.4	69.6	100.0	24.5	75.5	100.0
Any bio grandchildren	21.4	12.9	15.5	9.0	9.6	9.4
Any step-grandchildren	n/a	6.7	4.7	n/a	5.8	4.4
No grandchildren	78.6	82.5	81.3	91.0	86.0	87.2
1+ grandchild(ren)						
Bio only	21.4	10.8	14.0	9.0	8.2	8.4
Step only	n/a	4.6	3.2	n/a	4.5	3.4
Both bio and step	n/a	2.2	1.5	n/a	1.3	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0
N	764	1,483	2,247	364	1,488	1,852
Panel B: Ages 51 and older						
Partnership status (row %)	42.7	57.3	100.0	25.7	74.3	100.0
Any bio grandchildren	68.9	65.3	66.8	50.8	61.9	59.0
Any step-grandchildren	7.5	18.8	14.0	6.9	15.4	13.2
No grandchildren	29.5	28.8	29.1	46.5	32.5	36.1
1+ grandchild(ren)						
Bio only	63.0	52.4	56.9	46.6	52.1	50.7
Step only	1.6	5.9	4.1	2.8	5.6	4.9
Both bio and step	5.9	12.9	9.9	4.1	9.8	8.4
Total	100.0	100.0	100.0	100.0	100.0	100.0
N	5,145	5,956	11,101	1,986	6,474	8,460

Notes: PSID 2013 R&T module and HRS 2010 (Rand Family C file; Rand N file). Percentages weighted using 2010 individual-level weights for the HRS and 2013 individual-level weights for the PSID. n/a denotes that PSID does not collect information on the stepchildren of non-partnered men and women.

Table 3. Existence of Other Kinship Ties by Gender, Partnership Status, Grandparent Type, and Age

	Single Women				Partnered Women				Partnered Men			
	No grand kids	Bio grand kids only	Step-grand kids only	Both	No grand kids	Bio grand kids only	Step-grand kids only	Both	No grand kids	Bio grand kids only	Step-grand kids only	Both
Panel A: Ages 35-50												
Any living parent/-in-law?	86.9	81.9	n/a	n/a	98.4	91.1	95.5	-	98.3	96.5	90.3	-
Any living child <18?	44.5	34.5	n/a	n/a	74.5	36.3	42.2	-	77.1	53.6	43.2	-
N	553	211	n/a	n/a	1,164	177	93	-	1,247	130	82	-
Panel B: Ages 51 and older												
Any living parent/-in-law?	37.6	17.9	12.9	19.8	71.1	42.8	60.0	45.0	74.3	43.6	75.0	52.7
Any living child <18?	3.0	2.0	1.8	1.2	7.6	2.9	9.9	2.8	10.6	4.3	13.7	7.1
N	1,180	3,534	86	345	1,327	3,273	394	962	1,662	3,660	374	778

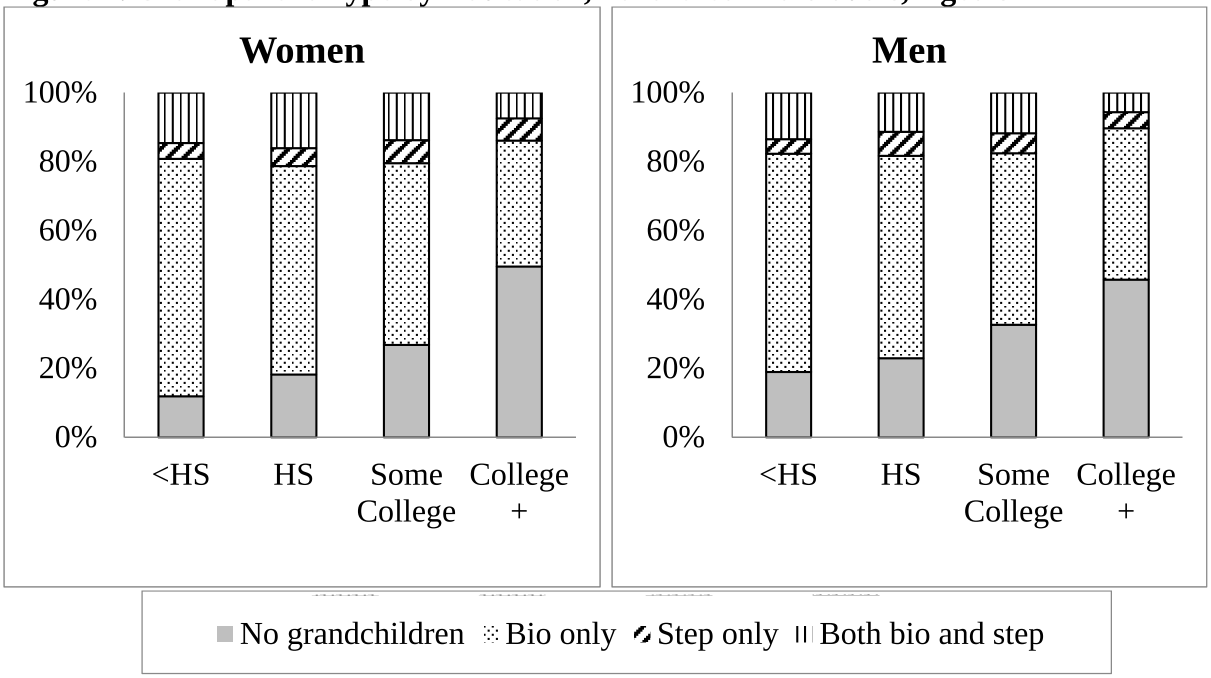
Notes: PSID 2013 R&T module and HRS 2010 (Rand Family C file; Rand N file). Percentages weighted using 2010 individual-level weights for the HRS and 2013 individual-level weights for the PSID. n/a denotes that PSID does not collect information on the stepchildren of non-partnered men and women. "-" denotes the suppression of cells with small sample sizes less than 50.

Table 4: Estimates of Individuals' Remaining Years as a Grandparent and as a Biological and Step-grandparent at Selected Ages by Gender, Adults Ages 35+

Age	Women's Remaining Years as:			Men's Remaining Years as:		
	Any grandmother	Bio grandmother	Step-grandmother	Any grandfather	Bio grandfather	Step-grandfather
35-39	26.2	24.6	4.9	20.8	19.1	4.2
40-44	26.1	24.6	4.9	20.8	19.2	4.1
45-50	25.6	24.3	4.7	20.6	19.1	4.0
51-54	24.1	23.0	4.4	19.7	18.5	3.7
55-59	22.7	21.8	3.8	18.7	17.8	3.2
60-64	20.4	19.8	3.3	17.1	16.4	2.7
65-69	17.4	17.0	2.6	14.8	14.4	2.1
70-74	14.2	13.9	1.9	12.0	11.7	1.5
75-79	10.9	10.7	1.3	9.2	9.0	1.2
80+	8.2	8.0	0.9	6.9	6.7	0.9

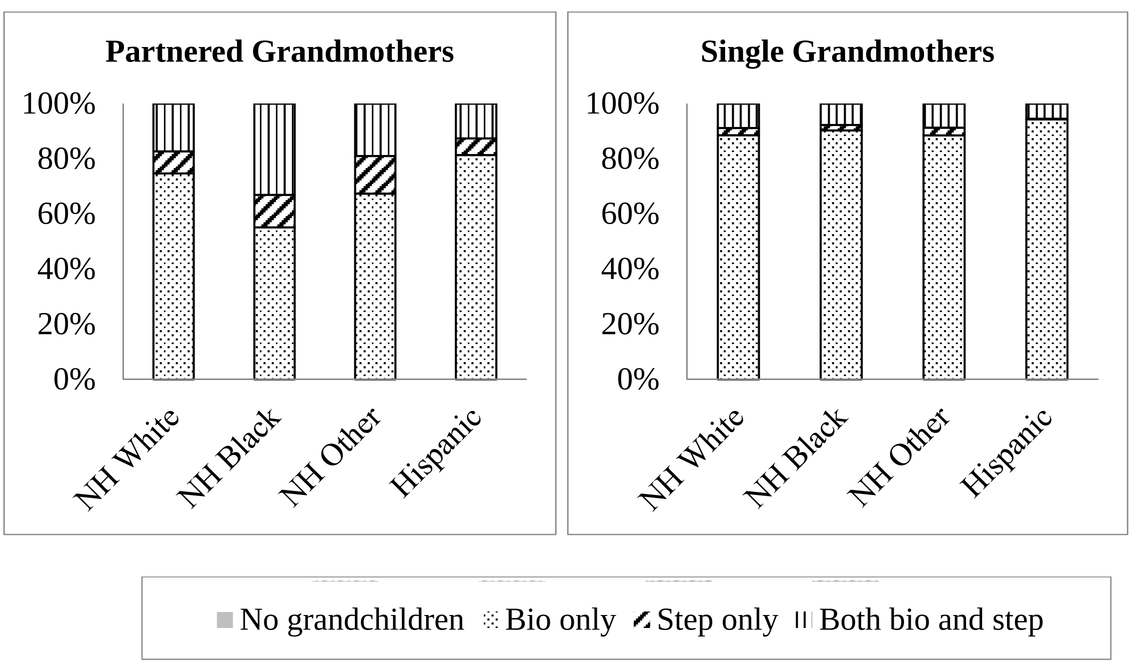
Notes: PSID 2013 R&T module and HRS 2010 (Rand Family C file; Rand N file). Mortality data from Arias (2014).

Figure 1. Grandparent Type by Education, Partnered Individuals, Aged 51+



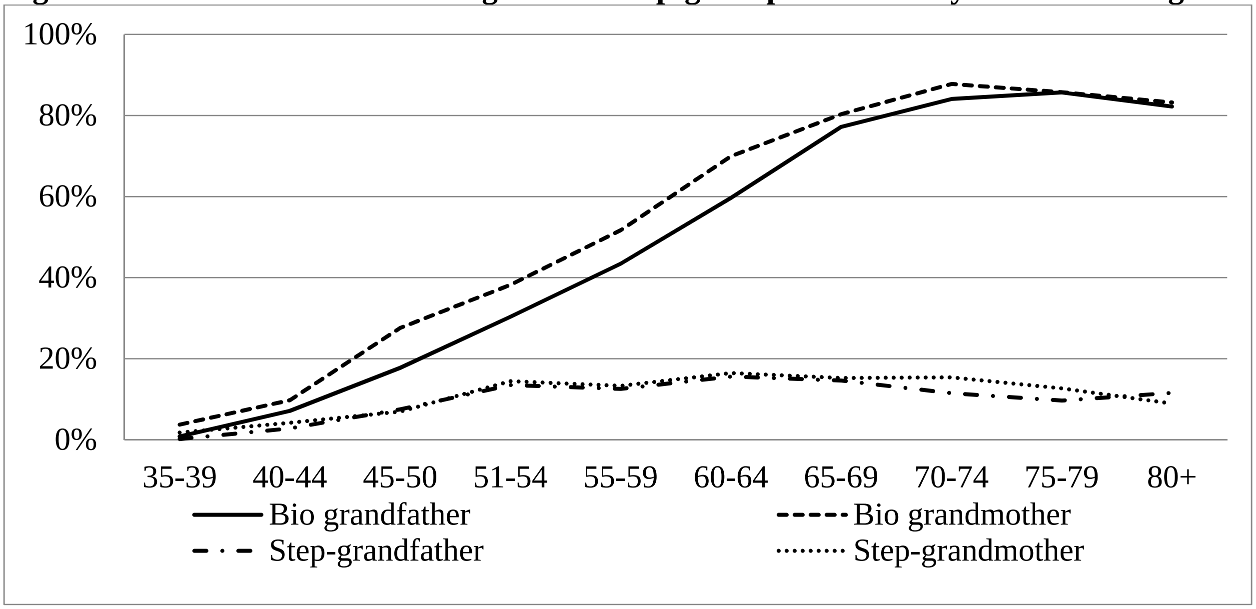
Source: HRS 1992-2010 (Rand Family C file; Rand N file). Weighted using individual weights.

Figure 2. Grandmother Type by Race/Ethnicity and Partner Status (Grandmothers Only), Aged 51+



Source: HRS 1992-2010 (Rand Family C file; Rand N file). Weighted using individual weights.

Figure 3. Prevalence Rates of Biological and Step-grandparenthood by Gender and Age



Source: HRS 1992-2010 (Rand Family C file; Rand N file). Weighted using individual weights.