

An enormous potential transfer

Past and present of healthy grandparenthood

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Patterns of mortality and the timing of childbearing among two generations determine the length of time that people spend as grandparents. Fertility postponement since the 1960s has delayed the transition to grandparenthood across cohorts [1] despite past expectations that the length of grandparenthood would continue to increase because of gains in longevity [2].

Leopold and Skopek examined transitions to grandparenthood across the 1929–1958 birth cohorts in East and West Germany, finding that grandparenthood had been delayed by about three months per year across succeeding cohorts.

Among women, the age of transition to grandparenthood shifted from late 40s to mid-50s in East Germany and from mid-50s to early 60s in West Germany. Among men, the age at transition to grandparenthood moved from early 50s to mid-50s in East Germany and from late 50s to mid-60s in West Germany. Margolis documented even larger delays in the timing of grandparenthood in Canada. She found that the age at which one-half of women and men become grandparents increased by about 10 years between 1985 and 2011 (from mid-40s to mid-50s among women and from early 50s to early 60s among men) [3].

Changes in fertility and mortality shift the age at which we transition into different family roles and the length of time that our lives overlap with those of our kin.

Because of fertility postponement over multiple generations, adults in North America and Europe are now becoming grandparents later in life than ever before.

However, this later transition to grandparenthood may be offset by gains in longevity, which increase the time spent as a grandparent.

Postponed grandparenthood and longer lives mean that generational overlap occurs later in the lives of grandparents, when health concerns are more common.

Extracted from 'Healthy Grandparenthood: How Long Is It, and How Has It Changed?', by R. Margolis and L. Wright (Springer, 2017). Full version available at: <http://bit.ly/2i4oiFD>.

Several other studies have estimated the timing of the transition to grandparenthood in different countries, but these studies did not examine change over time or use a universal method. Mean ages at the transition to becoming a grandmother and grandfather were, respectively, 46 and 49 in the early 1990s in the United States [4]; in Europe, these ages range from 46 and 49 in Ukraine to 57 and 58 in Switzerland [5]. The estimates from the United States are based on those with grandchildren in the 1992–1994 National Survey of Families and Households (NSFH) and exclude those who did not yet have grandchildren. The European estimates come from a variety of surveys conducted in the early 2000s and are based on survival estimates among those with a child at least 16 years of age [6]. The timing of grandparenthood is being studied in a variety of contexts, but analyses of different birth cohorts, analytic samples, and the use of varied estimation techniques have made it difficult to compare results across contexts and cohorts.

Very few studies have documented the duration of the grandparent role and the extent to which gains in longevity balance the postponement of grandparenthood. Only two studies have addressed the length of grandparenthood. First, Leopold and Skopek estimated the average length of grandparenthood in 25 countries by subtracting the median age at grandparenthood from life expectancy at birth for the year 2000. This measure varies from 21 years in West Germany and for Spanish men, to 35 years in East Germany and among American women. However, this measure does not have a straightforward demographic interpretation. Second, Margolis considered the length of grandparenthood in Canada by estimating the period life expectancy for the grandparent state and found it to be 24 years for women and 19 years for men. This measure has a straightforward demographic interpretation: the expected number of years that one will spend in the grandparent state if he/she experiences the levels of grandparenthood and mortality of that period.

The length of healthy grandparenthood is perhaps more important than the overall length of grandparenthood for understanding the experience of grandparents and their families. Grandparenthood may be most fulfilling when grandparents can be active with grandchildren and facilitate grandchildren's development [7]. The health of grandparents also likely affects the direction of intergenerational resources transferred within families [8].

The determinants of healthy grandparenthood—mortality, fertility, and morbidity—vary across countries. Improvements in life expectancy have occurred every year to date in both the United States and Canada, and Canadian life expectancy has been one to two years longer than in the United States since the 1960s [9]. Canadian mortality is on par with that of France and several central European countries, while the United States has the shortest life expectancy relative to most Western countries [10]. Mean age at first birth has been rising in both the United States and Canada since the early 1960s in Canada and early 1970s in the United States. In

the United States, mean age at first birth was 26.8 in 2014, up from 22.3 in 1960.

The timing of fertility in Canada is similar to many European countries, with the mean age at first birth being 28.5 in 2011, up from 23.6 in 1960 [11]. Finally, when considering morbidity, years without disability have increased over the last several decades in both the United States and Canada, but the increase in healthy years has been slightly larger for Canada than the United States [12]. In both countries, gains in life expectancy have not been made up entirely of healthy years; both disability-free years and years with chronic conditions have increased [13]. Moreover, the extent to which morbidity is being compressed in older age can depend on the measure of health used [14]. Crimmins and Beltrán-Sánchez reported that disability-free life expectancy has been consistently shown to be increasing since the 1980s. Trends in self-rated health over time, however, have been more ambiguous [15]. We do not know the extent to which changes in fertility and mortality, which affect the timing and length of grandparenthood, are counterbalanced by changes in morbidity across different contexts. We also do not know how estimates of healthy grandparenthood may be affected by the measure of health used.

Variations in the United States

The demographic changes that affect the timing, length, and health of grandparenthood are not uniform across the US population. Not only are large differences in fertility, mortality, and health evident between countries, but these factors also vary markedly by race/ethnicity and educational attainment. Thus, the demography of healthy grandparenthood is also likely to differ across racial/ethnic groups and educational levels.

First, differential fertility patterns lead to large racial/ethnic and educational differences in the timing of grandparenthood. On average, US black and Hispanic women become parents earlier than non-Hispanic white women [16]. Second, the more-educated also have higher median ages at first birth, which affects spacing between generations [17]. These differences compound across generations, leading to shorter generational length among blacks and Hispanics and less-educated families than non-Hispanic whites and highly educated families [18] as well as more generations of living kin available to less-educated and Hispanic middle-aged Americans [19]. For example, a recent study of Americans aged 50 or older showed that two-thirds of blacks and Hispanics have grandchildren compared with only 59% of non-Hispanic whites [20]. Using data from the 1992–1994 NSFH, Szinovacz found that non-Hispanic white men become grandparents an average of nine years later than black women. Differences by educational attainment are even more dramatic. More than three-quarters of Americans aged 50 and older without a high school education were grandparents in 2008, compared with only 43% of Americans of the same age with a college degree [21].

Longevity also varies considerably by race/ethnicity and education in the United States [22]. Mortality is lowest among Hispanics, followed by non-Hispanic whites, and then non-Hispanic blacks [23]. Moreover, those with higher educational attainment have lower mortality than the less-educated [24]. These well-documented racial/ethnic and educational differences in mortality may shorten the length of grandparenthood among groups with higher mortality if their higher mortality outweighs earlier childbearing.

In addition to fertility and mortality, health and disability-free life expectancy also vary greatly by race/ethnicity and education [25]. Blacks report both higher levels and earlier onset of disability than other subpopulations in the United States [26]. Non-Hispanic whites have the longest disability-free life expectancy, while blacks have longer life expectancy spent with disability [27]. Differences in disability-free life expectancy by education are even greater than racial differences [28] and greater than educational differences in total life expectancy [29]. Higher levels of education are associated with both significant delays in disability and the compression of morbidity into older ages [30]. Moreover, educational differences in self-rated health and disability-free life expectancy have been increasing over time among middle-aged and older adults [31]. Thus, differences in health may lead non-Hispanic whites and the more highly educated to be healthier grandparents for longer. These differences may also potentially enable them to be more actively involved in their grandchildren's lives while also preventing them from drawing resources away from the middle generations. However, such benefits are possible only if the advantage in healthy life expectancy afforded to non-Hispanic whites and the more-educated outweighs their delayed transition to grandparenthood due to fertility postponement.

Patterns of fertility, mortality and morbidity all vary by gender. On average, women have earlier fertility, lower mortality, and higher morbidity than men. Previous research has found that the transition to grandparenthood occurs several years earlier for women than men [32]. Thus, women may have more years of overlap with grandchildren. However, the fact that women also have higher levels of disability than men in old age may equalize the length of healthy grandparenthood by sex and may lead to a longer period of unhealthy grandparenthood for women. It may be the time to focus on a better environment for children, adolescents and youth educational process. There is a need to address these challenges from a family perspective while developing policies. A family perspective not only fosters scholarization but also promotes a completion of studies. Focusing on families and especially in the parents and their education, the children, adolescents and youth are raised in a supportive environment to increase their capacity and confidence.

Discussion and conclusions

Healthy grandparenthood is an important phase of life for demographers to consider. It marks the period of

overlap in the lives of grandparents and grandchildren when they can build relationships and participate in activities together. It is also the period during which older adults, if their health allows, can provide important transfers to their younger kin. One example of a potential transfer that healthy grandparents can provide is childcare to grandchildren, which serves as critical aid to adult children during their prime career-building phase of life. On the other hand, unhealthy grandparenthood represents a period when the middle generation may be more likely to provide care upward, and relationships between grandparents and grandchildren may not be as active. To the best of our knowledge, this article provides the first estimates of the healthy and unhealthy grandparenthood periods in later life. How these periods vary within and across populations is important for understanding the ways in which resources are transferred across generations—an area that has been understudied in both demography and sociology [33].

The length of healthy grandparenthood is shaped by the timing of fertility for two generations, which shapes the timing of grandparenthood as well as patterns of morbidity and mortality. Studying intergenerational overlap in societies where demographic rates are changing is not a simple process [34]. The length of healthy grandparenthood at the population level and how it has changed are questions that must be addressed using demographic techniques. Cohort estimates of healthy grandparenthood for contemporary cohorts do not exist because it is possible to calculate the average length of time from the birth of the first grandchild to death only after the cohort has died. Therefore, we must create period estimates using demographic techniques. In our study, we use health expectancy methods to create estimates for the average length of healthy grandparenthood in the United States and Canada during a period when fertility was postponed, health of older adults improved, and mortality declined.

This period of healthy grandparenthood from age 50 is 15.8 years and 18.9 years for American men and women, respectively, in 2010; and 14.2 years and 17.4 years, respectively, for Canadian men and women in 2011. Despite the delays in the transition to grandparenthood and the fact that the population of grandparents is now older, the length of healthy grandparenthood has increased over the study period for men and women in both countries. Grandparents have significantly more healthy years overlapping with grandchildren than they did two decades ago.

In addition to a longer period of healthy grandparenthood, a greater proportion of overall grandparent years are spent healthy for men and women in both countries. Three-quarters of grandparent years for American and Canadian men and women are healthy (2010 for United States, 2011 for Canada), compared with 70 % in the United States in 1993 and two-thirds in Canada in 1985. This shift is likely due to improvements in self-rated health among the adult population in the United States and Canada [35], especially among those who are grandparents.

Large racial/ethnic and educational differences exist in the length of healthy grandparenthood in the United States. Non-Hispanic white grandparents have the longest period of healthy grandparenthood, and a greater proportion of their years as grandparents are spent healthy than non-Hispanic blacks or Hispanics. Non-Hispanic white grandfathers are healthy for 15.0 years and grandmothers for 18.5 years, compared with 11.3 and 13.7 for non-Hispanic black men and women, and 13.1 and 12.8 years for Hispanic men and women. Grandparents with an intermediate level of education (12 years) have the longest overall period of grandparenthood, but it is the most-educated grandparents who have the longest period of healthy grandparenthood. Among the most highly educated men, 16.8 years are spent as a healthy grandparent, compared with 16.1 among men with a high school diploma and 11.8 for the least-educated men. The least-educated women spend only 13.8 years as a healthy grandparent, compared with 20.7 for those with a high school diploma and 20.8 for those with more than a high school education.

The results show that less-educated, Hispanic, and black Americans spend less time as healthy grandparents and more time as unhealthy grandparents. These grandparents may be more likely to have fewer resources, which may become further strained in the face of earlier morbidity. Non-Hispanic black and Hispanic grandparents are more likely to provide in-kind transfers, such as childcare and practical support, than non-Hispanic white grandparents [36], and earlier declining health of these grandparents may reduce their ability to contribute to younger generations earlier than white and more highly educated grandparents.

Gender is an important theme in the research on grandparenthood [37]. Grandmothers, and particularly maternal grandmothers, have longer overlap with grandchildren than grandfathers because of age differences between spouses compounded over two generations and sex differences in mortality [38]. This study adds gender differences in morbidity as another dimension, which has implications for the healthy period of overlap between grandmothers/grandfathers and grandchildren.

Earlier grandparenthood, longer lives, and higher morbidity lead to more overall grandparent years for women than men, but these additional years are made up of both healthy and unhealthy grandparent years.

When health expectancy methods are used for the analysis of healthy grandparenthood and other family research, some important methodological points should be noted. First, the length in a given state is a period measure that is an average for the population examined. Just as some people in a population live much longer than the period life expectancy whereas others live a much shorter time, the length of healthy grandparenthood also varies within a population. Some will become grandparents very early and will experience a much longer period of healthy grandparenthood than the period expectancy. Others will never become grandparents but still contribute to the population average.

Second, the survey data on health and grandparenthood should represent the same population as that covered in the mortality data. However, survey data will often exclude some subpopulations. For example, in our Canadian data, the survey data exclude the very small populations residing in the Northwest and Yukon territories and those in institutions, but the mortality estimates are for the entire population. The bias resulting from this is likely very small, given that only 0.24 % of Canadians resided in those excluded areas in 2011 [39]. For the US analysis by education, the survey covers the same native-born population as the mortality data. The researcher should be careful to note discrepancies in the coverage of different data sources.

Finally, researchers should note that the length of healthy grandparenthood is sensitive to the measure of health that is used. We found longer periods of healthy grandparenthood using disability as a measure of health rather than self-rated health. Both can yield important insights for how healthy grandparenthood will affect family dynamics. For some questions, it may be more pertinent to use one measure of health than another.

[1] Leopold and Skopek 2015a; Margolis 2016. [2] Murphy 2011; Uhlenberg 1996. [3] Margolis 2016. [4] Szinovacz 1998. [5] Leopold and Skopek 2015b. [6] *Ibidem*. [7] Chan and Boliver 2013; Silverstein and Ruiz 2006. [8] Aassve et al. 2012; Grundy 2005; Hank and Buber 2009; Igel and Szydlik 2011. [9] Human Mortality Database n.d. [10] *Ibidem*. [11] *Ibidem*. [12] Salomon et al. 2012. [13] Crimmins and Beltrán-Sánchez 2011; Crimmins and Saito 2001; Mandich and Margolis 2014; Martel and Bélanger 1998; Roberge et al. 1999; Salomon et al. 2012. [14] Crimmins 1996; Crimmins and Beltrán-Sánchez 2011; Parker and Thorslund 2007. [15] Salomon et al. 2009. [16] Matthews and Hamilton 2009. [17] Yang and Morgan 2003. [18] Swartz 2009; Szinovacz 1998. [19] Matthews and Sun 2006; Margolis and Wright 2016. [20] Stykes et al. 2014a. [21] Stykes et al. 2014b. [22] Brown et al. 2012; Elo and Preston 1996; Matthews and Sun 2006. [23] Borrell and Lancet 2012. [24] Brown et al. 2012. [25] Crimmins and Saito 2001; Crimmins et al. 1996; Mendes de Leon et al. 2005. [26] Mendes de Leon et al. 2005. [27] Crimmins et al. 1989; Hayward and Heron 1999. [28] Crimmins et al. 1996. [29] Crimmins and Saito 2001. [30] *Ibidem*. [31] Dykstra and Komter 2006; Szinovacz 1998. [32] Mare 2011. [33] Herlofson and Hagestad 2011. [34] Martel and Bélanger 1998. [35] Sarkisian and Gerstel 2004; Sarkisian et al. 2007. [36] Dubas 2001; Leopold and Skopek 2015a, b; Stelle et al. 2010; Szinovacz 1998; Uhlenberg and Hammill 1998. [37] Hagestad and Lang 1986; Keck and Saraceno 2008. [38] Statistics Canada 2012, 2013, 2014a.