

## **Exploring the Link between Socioeconomic Factors and Parental Mortality**

Zachary Scherer

Rose M. Kreider

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### **Abstract**

When in the life course do adults lose their parents, and does this differ across demographic groups? For example, do Blacks lose their parents earlier in life than Whites? Historically, a lack of available data has limited the study of parental mortality in the United States. For the first time, the 2014 panel of the Survey of Income and Program Participation (SIPP) included a series of questions asking respondents whether their parents were still alive. When taken in combination with socioeconomic indicators collected in the SIPP, these nationally representative data offer an unprecedented opportunity to evaluate factors related to parental mortality. Existing research suggests linkages between socioeconomic factors and mortality.<sup>1</sup> In this paper, we use Wave 1 of the 2014 SIPP panel to evaluate whether linkages exist between socioeconomic factors and the timing of parental loss. We begin by exploring parental loss by age, noting that individuals tend to lose their fathers earlier in life than their mothers. We then consider the way in which inequities relating to demographic factors such as race and origin, income-to-poverty ratio, and education

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<sup>1</sup> Arias, Elizabeth, Melonie Heron, and Jiaquan Xu. "United States Life Tables, 2014." *National Vital Statistics Reports* 66, no. 4 (August 14, 2017).

level manifest themselves in the timing of parental mortality. Additionally, we consider how interrelationships among these factors, such as income disparities within racial groups, relate to parental mortality outcomes. These results illustrate how disparate socioeconomic communities are affected by parental loss and underscore the utility of the SIPP as an analytical tool for studying trends in parental mortality.

## **Introduction and Context**<sup>2</sup>

While attention is often concentrated on an individual's relationship with his or her parents during childhood, parental relationships remain important throughout the life course. In many cases, parents continue supporting their adult children in various ways after they have left the home. In some cases, this support takes the form of monetary transfers from parents to their adult children. Indeed, existing literature from outside the United States indicates that parental transfers have a significant effect on current standard of living and employment outcomes for those receiving the resources.<sup>3</sup>

Parental support can also take the form of non-monetary transfers. As the number of single-parent families and maternal employment has risen in recent decades, many adults have enlisted the support of their parents in providing childcare while they themselves continue working.<sup>4</sup> Parents can also provide emotional support to their children.<sup>5</sup>

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<sup>2</sup> The authors would like to thank Cody Spence for providing research assistance on this project.

<sup>3</sup> Semyonov, Moshe, and Noah Lewin-Epstein. "The Impact of Parental Transfers on Living Standards of Married Children." *Social Indicators Research* 54, no. 2 (May 2001): 115-37.

<sup>4</sup> Goodfellow, Joy, and Judy Laverty. "Grandparents Supporting Working Families." *Family Matters*, no. 66 (December 2003).

<sup>5</sup> See: Cooney, Teresa, and Peter Uhlenberg. "Support from Parents over the Life Course: The Adult Child's Perspective." *Social Forces* 71, no. 1 (September 1992): 63-84.  
Rossi, Alice S., and Peter H. Rossi. *Of Human Bonding: Parent-Child Relations Across the Life Course*. New York: A. De Gruyter, 1990.

As a result, the loss of one or both parents can profoundly affect a person's life. Studies have found that the loss of a parent during adulthood can lead to increases in psychological distress and alcohol consumption, as well as declines in overall physical health.<sup>6</sup> By what age have most Americans lost a parent or both of their parents? Do a higher percentage of individuals lose their mother first, or their father? What socioeconomic factors are linked to these outcomes, and how do these various factors (including race, Hispanic origin, educational attainment, and income level) interact with each other?

Death rates differ by various characteristics, which inform the answers to these questions. However, there are few sources of nationally representative data with estimates of parental mortality in the United States. Research in Scandinavian countries has sought to establish intergenerational patterns in mortality outcomes.<sup>7</sup> However, other than clinical research conducted with small samples,<sup>8</sup> most existing research regarding parental mortality in the United States has relied on the National Survey of Families and Households, which was conducted between 1987 and 1993 with a sample of roughly 13,000 adults.<sup>9</sup> This research has focused principally on the emotional effects of parental loss, rather than identifying differences in the age at which individuals lose one or both parents, or the socioeconomic factors that might be linked to the timing of parental death. Are patterns of this sort evident in the United States? In the subsequent sections,

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<sup>6</sup> Umberson, Debra, and Meichu Chen. "Effects of a Parent's Death on Adult Children: Relationship Salience and Reaction to Loss." *American Sociological Review* 59, no. 1 (February 1994): 152-68.

<sup>7</sup> See: Martikainen, Pekka, and Heta Moustgaard. "The Effects of Individual Taxable Income, Household Taxable Income, and Household Disposable Income on Mortality in Finland, 1998–2004." *Population Studies* 63, no. 2 (2009): 147-62. and

Palme, Marten, and Sofia Sandgren. "Parental Income, Lifetime Income, and Mortality." *Journal of the European Economic Association* 6, no. 4 (June 1, 2008): 890-911.

<sup>8</sup> See Birtchnell, John. "Psychiatric Breakdown following Recent Parental Death." *British Journal of Medical Psychology* 48 (1975): 379-90.

and Sanders, Catherine. "A Comparison of Adult Bereavement in the Death of a Spouse, Child, and Parent." *Omega: Journal of Death and Dying* 10, no. 4 (1980).

<sup>9</sup> Marks, Nadine, Heyjung Jun, and Jieun Song. "Death of Parents and Adult Psychological and Physical Well-Being: A Prospective U.S. National Study." *Journal of Family Issues* 28, no. 12 (2007): 1611-638.

we use newly available data from the 2014 Survey of Income and Program Participation (SIPP) to explore socioeconomic patterns of parental mortality using recent data that represents the U.S. population.

### **About the SIPP**

The SIPP is a nationally representative panel survey administered by the U.S. Census Bureau that collects information on a variety of socioeconomic factors. The 2014 panel followed households for four years, collecting information on an annual basis from an initial sample of roughly 30,000 households regarding a variety of topics relating to economic well-being, family dynamics, education, and wealth.

The 2014 SIPP included, for the first time, a series of questions regarding parental mortality. These questions asked whether respondents' *biological* parents were still alive at the time of the survey, as well as the year of death for those parents that were deceased.<sup>10</sup> In this analysis, we only utilize responses to the questions regarding whether respondents' parents were still alive. In the event of nonresponse, these variables are fully allocated and imputed using response information from individuals with similar characteristics. As a result, every individual in all interviewed households has a value for these variables.<sup>11</sup>

This paper uses data from Wave 1 of the 2014 SIPP (collected in February to June of 2014) to explore variations in patterns of parental mortality, using characteristics of the interviewed children to conduct the analysis. Wave 1 data include responses to the binary parental death

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<sup>10</sup> Individuals with adoptive parents or stepparents were still asked these questions about their biological parents. It is not possible to limit our analysis to those individuals with two known biological parents, as this information is not collected as a part of the SIPP.

<sup>11</sup> While data for the questions regarding the year of parental death were collected during each year of the 2014 SIPP Panel, and released for the first interview (wave) of the panel, they were not released for subsequent waves due to concerns surrounding data quality due to high nonresponse, as well as the lack of a means by which to benchmark the collected information. For this reason, we do not use data regarding the year of parental death in our analysis.

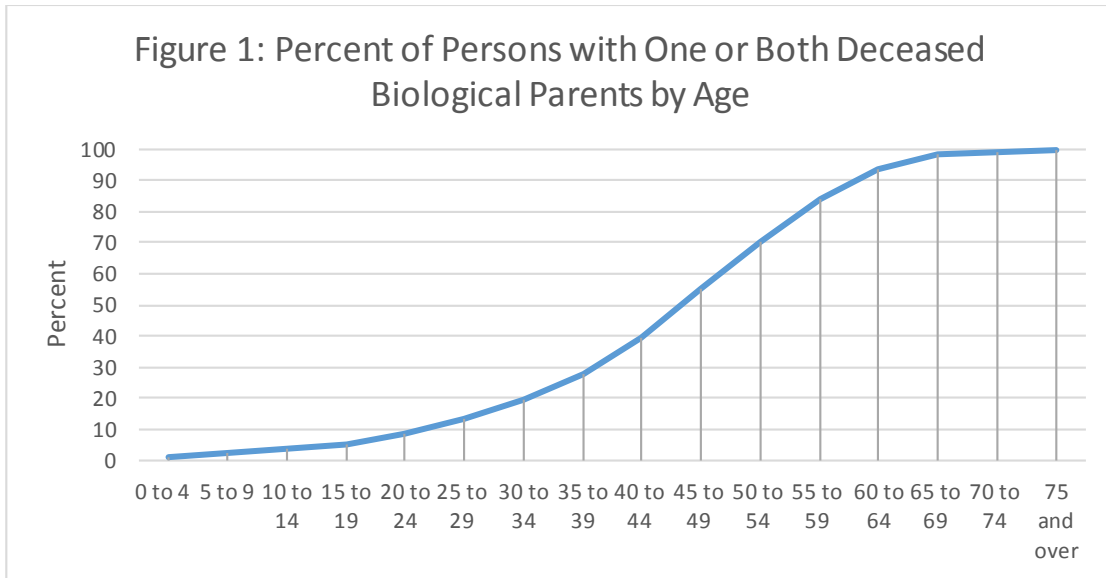
variables for over 70,000 individuals, which are then weighted to produce nationally representative estimates.<sup>12</sup> In this context, the term ‘children’ does not refer to minors, but rather to all respondents who were asked this series of questions about their parents. The nationally representative nature of the SIPP and the wide array of topics covered by the survey allow for an assessment of the relationship between parental mortality and socioeconomic factors.

### **Parental Mortality by Age**

We begin by considering the share of people who have lost one or both parents by a given age. In principle, it would be interesting to know the median age at which people lose one or both parents. However, SIPP data provide a snapshot of the population and do not project an age at parental death for those who have yet to lose one or both parents. Instead, the SIPP data illustrate the share of respondents within a given age bracket who have already lost one or both parents by the time of the survey.

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<sup>12</sup> The data are subject to error arising from a variety of sources, including sampling error, nonsampling error, and other sources of error. For more information, please visit the SIPP Web site at <[www.census.gov/sipp](http://www.census.gov/sipp)>

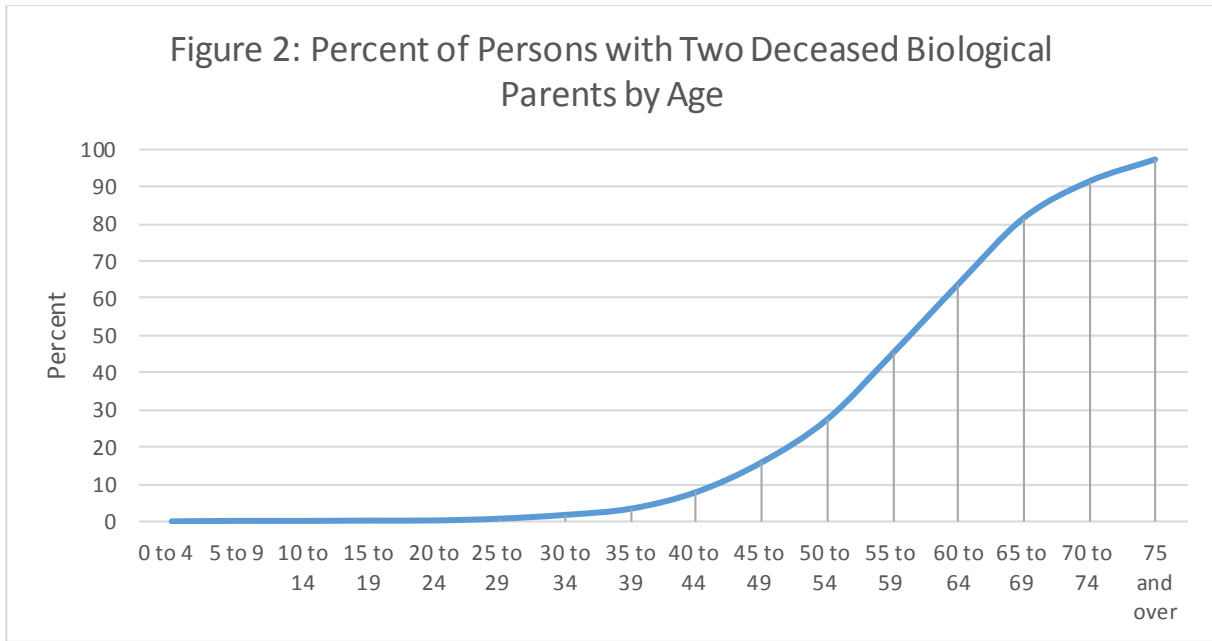


Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

As expected, given that death rates increase at older ages, the share of persons with one or both parents no longer alive increases over age (see Figure 1).<sup>13</sup> While less than one-in-four of those aged 30 to 34 have lost one or both parents, 93.3 percent of those aged 60 to 64 have lost one or both parents.

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<sup>13</sup> All comparative statements have undergone statistical testing and, unless otherwise noted, all comparisons are statistically significant at the five percent level.



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

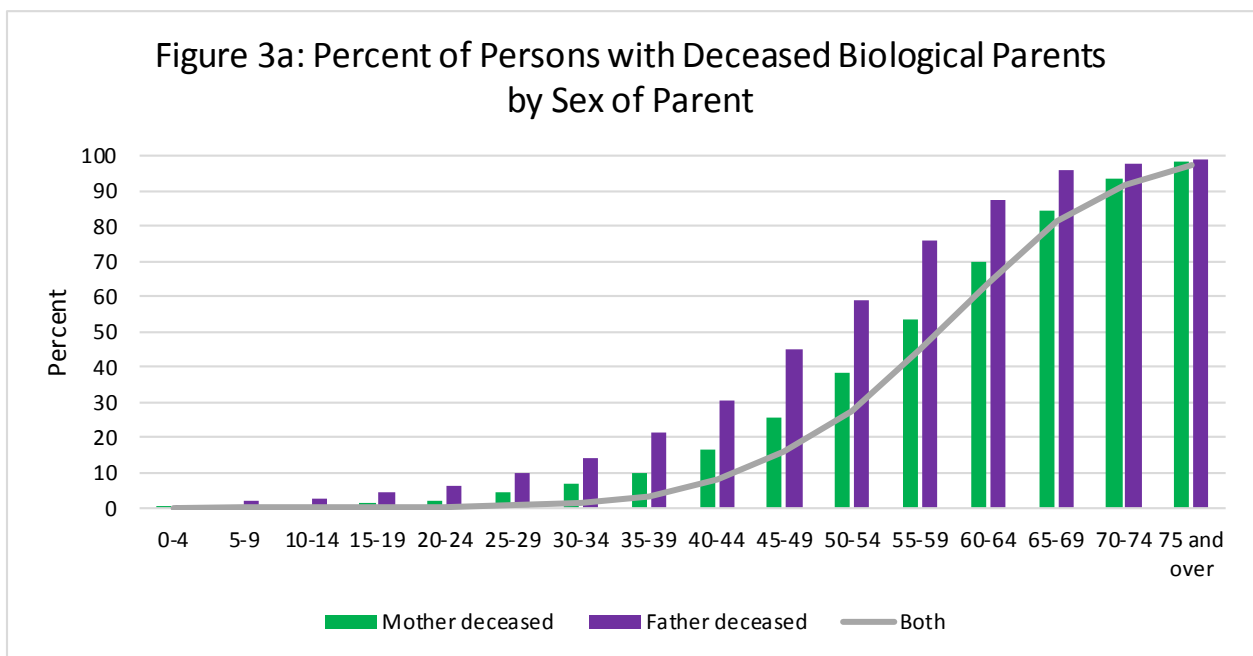
Figure 2 considers the same data, but plots the share of people who have lost *both* of their parents. The shape of the resulting curve mirrors the basic shape of the curve in Figure 1: while 1.8 percent of adults aged 30 to 34 have two deceased parents, 27.5 percent of those aged 50 to 54 have two deceased parents, and 45.2 percent of those aged 55 to 59 have two deceased parents. Among those aged seventy-five and over, more than 95 percent have lost both of their parents.

While these results are unsurprising, they do lend credence to the quality of the parental death variables that will be used throughout the remainder of our analysis.

### **Parental Mortality by Age and Sex of Parent**

Government health data indicate that women have longer life expectancies than men. National Vital Statistics Reports (NVSR) compiled by the National Center for Health Statistics at the Centers for Disease Control and Prevention (CDC) indicate that life expectancy for females

born in 2014 was 81.3 years, while life expectancy for males was 76.5 years.<sup>14</sup> Additionally, men are older at the time of the birth of their first child, on average, than women. In 2014, 17.5 percent of women with biological children had their first child after turning 30, compared to 30.6 percent of men.<sup>15</sup> The combination of these two factors (higher life expectancy for women and earlier age at first birth for women), would lead one to expect individuals to lose their fathers earlier in life than their mothers, on average.



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

Data from the 2014 SIPP provide broad support for this outcome (see Figure 3a). For example, among those aged 45 to 49, 25.8 percent have lost their mother, while 45.1 percent have

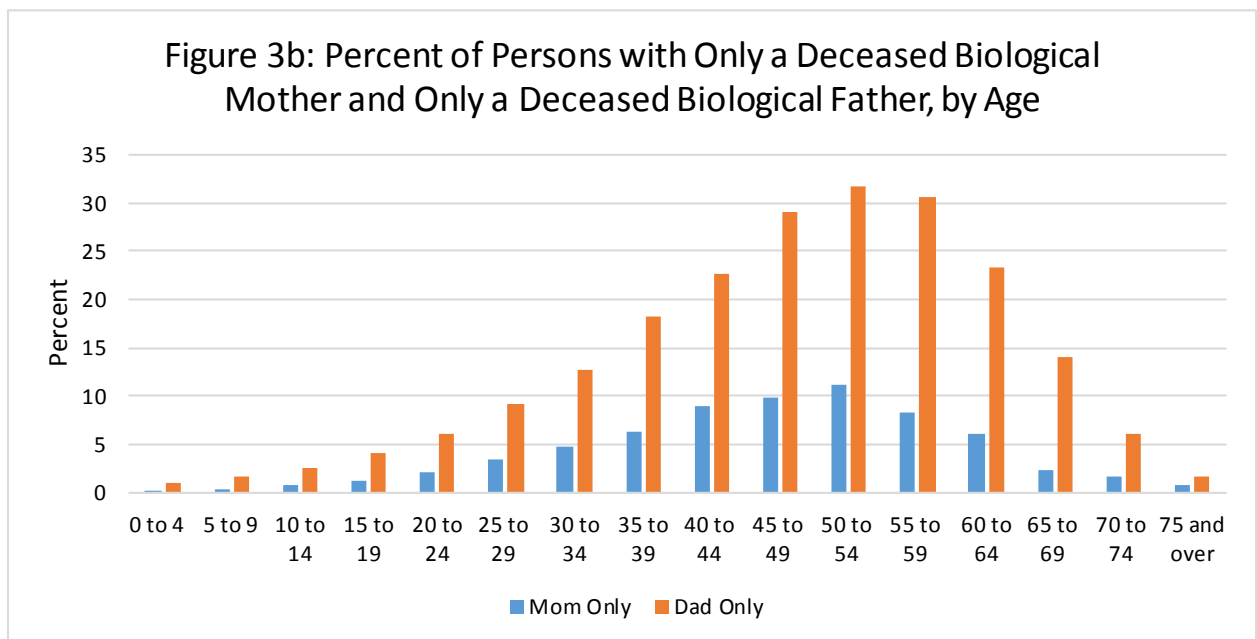
<sup>14</sup> See Arias, “United States Life Tables”.

<sup>15</sup> Monte, Lindsay M. "Fertility Research Brief." *U.S. Census Bureau Current Population Reports P70BR-147* (March 2017).



lost their father. Along these same lines, roughly seven-in-ten of those aged 60 to 64 have a deceased mother, while 87.3 percent have lost their father.

Figure 3b presents this same analysis in a different format, comparing the share of individuals who have lost only their mother with the share of individuals who have lost only their father across age groups. The results align with the findings in Figure 3a, indicating that the share of individuals who have lost only their father is greater than the share of individuals who have lost only their mother, with both distributions peaking in middle age before falling as more individuals have lost both parents.



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

As a result, data from the 2014 SIPP broadly align with National Vital Statistics System (NVSS) projections showing that men, on average, have lower life expectancies than women (see Table 1).

**Table 1: Percent of Persons with Deceased Parents by Age of 'Children'**  
(Numbers in thousands)

Age in Years	Total (1)	Deceased Mother			Deceased Father			One or More Deceased Parents			Both Parents Deceased		
		Number	Percent of Age Group	Margin of Error (2)	Number	Percent of Age Group	Margin of Error	Number	Percent of Age Group	Margin of Error	Number	Percent of Age Group	Margin of Error
Total	311,900	88,470	28.4	0.4	117,600	37.7	0.4	131,500	42.2	0.4	74,590	23.9	0.3
Less than 18	72,240	489	0.7	0.1	1,622	2.2	0.2	2,014	2.8	0.3	97	0.1	0.1
18 to 24	30,460	653	2.1	0.4	1,786	5.9	0.6	2,358	7.7	0.7	82	0.3	0.1
25 to 34	41,880	2,281	5.5	0.5	5,098	12.2	0.7	6,851	16.4	0.8	528	1.3	0.3
35 to 44	39,650	5,297	13.4	0.8	10,420	26.3	1.0	13,450	33.9	1.1	2,267	5.7	0.5
45 to 54	43,000	13,970	32.5	1.0	22,580	52.5	1.1	27,100	63.0	1.1	9,439	22.0	0.9
55 to 64	39,730	24,270	61.1	1.1	32,230	81.1	0.9	35,130	88.4	0.7	21,380	53.8	1.1
65 and over	44,980	41,510	92.3	0.6	43,880	97.6	0.3	44,590	99.1	0.2	40,790	90.7	0.6

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

<sup>(1)</sup> All numbers have been rounded to four significant digits

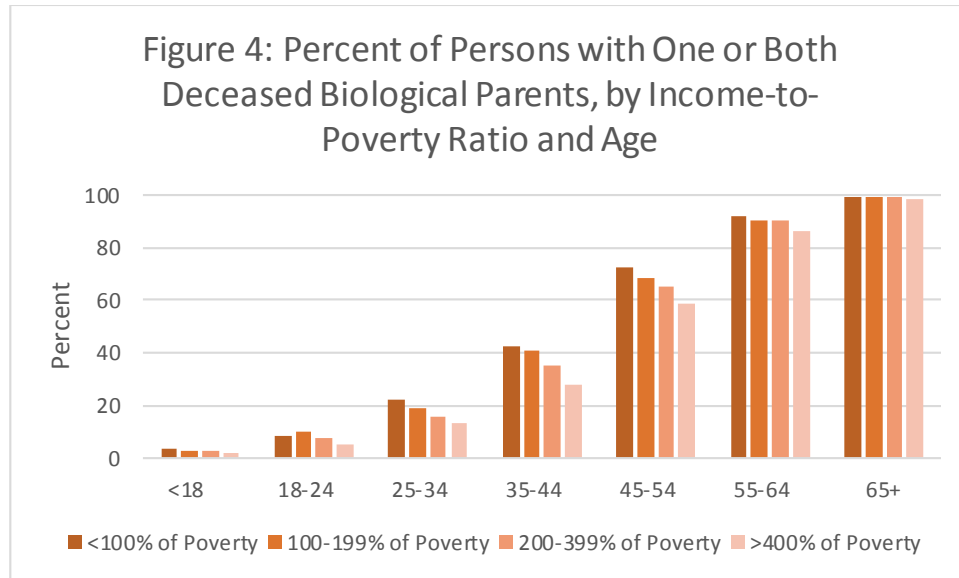
<sup>(2)</sup> All margins of error, when added to or subtracted from the estimate, represent the 95-percent confidence interval around the estimate.

## Parental Mortality and Socioeconomic Factors

How do socioeconomic factors influence the percentage of people who have lost a parent by a given age outlined in the preceding sections? The 2014 SIPP is a uniquely powerful tool to make this assessment, as it contains a wide array of questions regarding socioeconomic status. Existing literature broadly supports the notion that individuals with lower socioeconomic status have increased mortality risk.<sup>16</sup> The 2014 SIPP suggests that this link also exists with respect to the timing of parental mortality.

## Income

<sup>16</sup> Lynch, John, George Kaplan, and Richard Cohen. "Childhood and Adult Socioeconomic Status as Predictors of Mortality in Finland." *The Lancet* 343, no. 8896 (February 26, 1994): 524-27.



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

Figure 4 presents the share of persons with at least one deceased parent, by both age and income-to-poverty ratio. In this analysis, income-to-poverty ratio is measured at the household level as a ratio of the reported total income of all household members against the Federal Poverty Level (FPL), a national standard determined based on family size.<sup>17</sup> We use the income-to-poverty ratio for December of 2013, the last month of the reference period.<sup>18</sup> The results indicate that a higher percentage of individuals aged 25 to 54 who are living in a household with an income-to-poverty ratio below the FPL have lost a parent than those living in comparatively wealthier households. Indeed, we observe a broadly linear decline across poverty levels. For example, among those aged 35 and 44, 42.8 percent of those living below the FPL have lost a parent. This compares with 40.8 percent for those living in households with an income-to-poverty ratio of between 100 and 199 percent of the FPL,<sup>19</sup> 35.0 percent for those living in households with an income-to-

<sup>17</sup> For details, see <https://www.healthcare.gov/glossary/federal-poverty-level-fpl/>.

<sup>18</sup> A small number of unrelated children aged 15 and under who do not receive a poverty threshold are omitted from this analysis. It is also important to note the possibility of reverse causality in this section: the loss of a parent could lead to worsening economic circumstances, rather than poor economic circumstances leading to the loss of a parent.

<sup>19</sup> The difference between the values for those in poverty and those between 100 and 199 percent of the FPL is not statistically significant.

poverty ratio of between 200 and 399 percent of the FPL, and 28.0 percent for those living in households with an income-to-poverty ratio of at least 400 percent of the FPL. For those aged 18 to 64, a lower percentage of those living at or above 400 percent of the poverty line have lost a parent than those in any other category vis-à-vis the poverty line. These findings align with other literature indicating limitations in income gradients in mortality.<sup>20</sup> Individuals living at lower income levels may be less able to financially support the health needs of an ill parent, or may be the only earner in their home. The parent may also lack the resources to finance their own care, given that a child's income level is broadly associated with the income level of his or her parents.<sup>21</sup>

### Educational Attainment

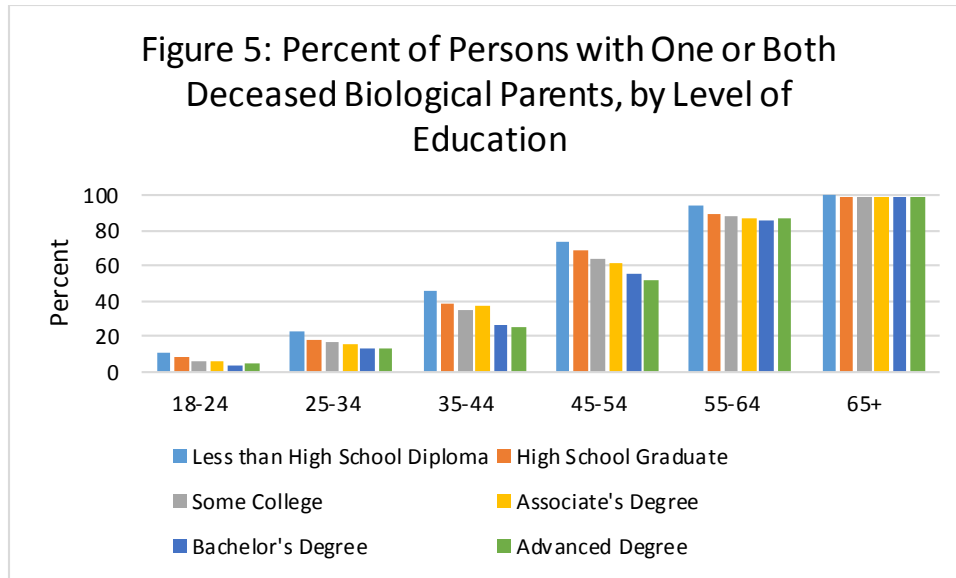
The 2014 SIPP also obtains information about respondents' educational attainment. Given that education is a strong proxy for income,<sup>22</sup> we would expect to see a similar pattern in parental mortality across levels of educational attainment as we did when considering income-to-poverty-ratio.

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<sup>20</sup> See McDonough, P., G. Duncan, and D. Williams. "Income Dynamics and Adult Mortality in the United States, 1972 through 1989." *American Journal of Public Health* 87, no. 9 (September 1997): 1476-483.

<sup>21</sup> See Solon, Gary. "Intergenerational Income Mobility in the United States." *The American Economic Review* 82, no. 3 (June 1992): 393-408.

<sup>22</sup> Becker, Gary S., and Barry R. Chiswick. "Education and the Distribution of Earnings." *The American Economic Review* 56, no. 1 (March 1966): 358-69.



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

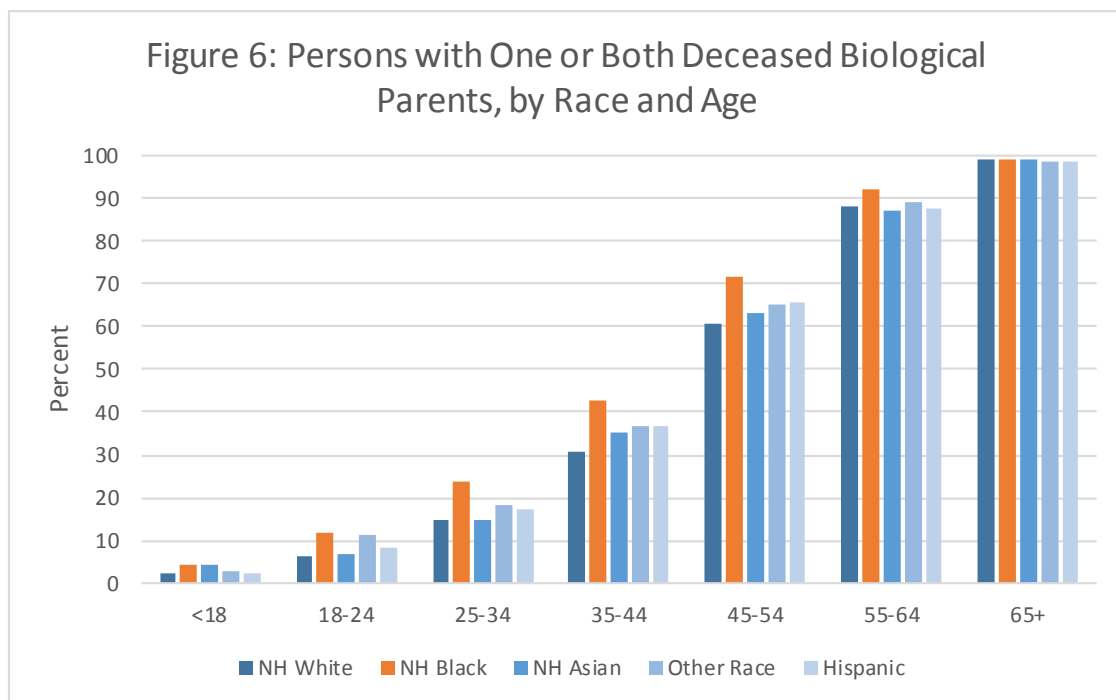
This outcome is borne out in the results in Figure 5. As with income, a smaller percentage of those with higher levels of educational attainment have lost a parent compared to those with lower educational attainment. For example, 45.6 percent of those in the 35 to 44 age bracket who lack a high school diploma have lost a parent, while this outcome is only true for about one in four individuals holding an advanced degree from the same age group. This outcome aligns with existing literature linking educational attainment to wealth, as well as literature suggesting that a lower level of education may yield reduced awareness of opportunities for medical care or treatment.<sup>23</sup> As with the link between poverty and parental mortality, the vast majority of individuals aged 65 and over have lost one or both parents, irrespective of their educational attainment level.

<sup>23</sup> See Elo, Irma T., and Samuel H. Preston. "Educational Differentials in Mortality: United States, 1979-85." *Social Science and Medicine* 42, no. 1 (1996): 47-57. and Ross, Catherine, and Chia-ling Wu. "The Links Between Education and Health." *American Sociological Review* 60, no. 5 (October 1995): 719-45.

## Race and Hispanic Origin

A final key factor we consider is race and Hispanic origin.<sup>24</sup> Death rates differ by race and Hispanic origin, and the NVSR produces separate life tables by race. Among those individuals born in 2014, Whites were projected to live 79.1 years, while Blacks were projected to live 75.3 years, on average.<sup>25</sup>

The 2014 SIPP data regarding parental mortality offer particularly stark support for the gap between life expectancy for Whites and Blacks.



<sup>24</sup> For the purposes of this analysis, we combine race and Hispanic origin into a single variable. From this point forward, non-Hispanic Whites will be referred to as Whites, non-Hispanic Blacks will be referred to as Blacks, and non-Hispanic Asians will be referred to as Asians. Note that we are showing those who have reported only one race, and all those who reported being of Hispanic origin are shown as Hispanic and not as part of the race group they reported. The ‘Other Race’ group includes those who reported one race if it was American Indian or Alaska Native, or Native Hawaiian or Pacific Islander, and all those who reported multiple race categories.

<sup>25</sup> See Arias, “United States Life Tables”.

Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

Figure 6 looks at the same parental mortality data and age groups as earlier figures, but separates the findings based on race and Hispanic origin. The results suggest that parental loss is experienced significantly earlier by the Black community. The shorter life expectancies of Blacks, on average, translate into a higher proportion of younger Blacks losing their parents, compared with White adults of the same age. The impacts of this gap are especially relevant among the younger age groups that could presumably benefit most from monetary or non-monetary transfers from parents. Roughly one-in-four Black young adults aged 25 to 34 have experienced the death of a parent, compared to about 15 percent of Whites and Asians and 17.2 percent of Hispanic young adults.<sup>26</sup> Even among individuals aged 55 to 64, where the majority of all people have lost a parent, we still see a higher percentage of Blacks having experienced parental loss. Roughly 92 percent of Blacks aged 55 to 64 have experienced the loss of a parent, compared to about 88 percent for Whites, Hispanics, and Asians.<sup>27</sup>

These results are especially stark when taken in context of the fact that mean age at first birth is higher for White mothers than Black mothers.<sup>28</sup> Therefore, under the assumption that a lower parental age at first birth translates into a smaller age gap, on average, with one's parents, the results in Figure 6 indicate that Blacks lose their parents earlier in life than Whites even in spite of having younger parents at birth. Drawing on the literature referenced above, these results would suggest that Blacks are less likely to be able to take advantage of the various forms of transfers associated with having a living parent than their counterparts from other race/origin groups.

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<sup>26</sup> Note that the estimates for Asians and Hispanics do not differ statistically.

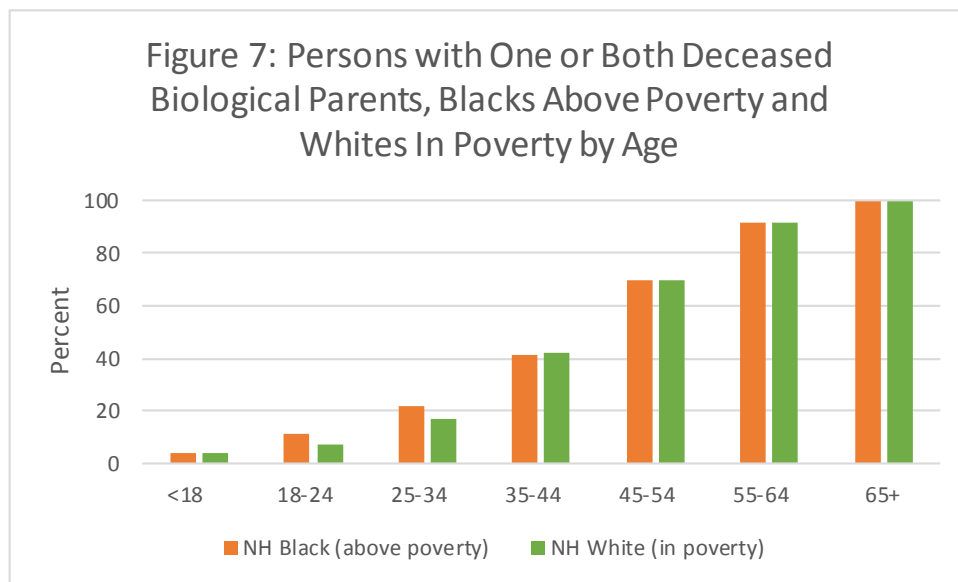
<sup>27</sup> Note that the estimates for Whites, Asians, and Hispanics do not differ statistically.

<sup>28</sup> See Martin, Joyce, Brady Hamilton, and Michelle Osterman. "Births: Final Data for 2015." *National Vital Statistics Reports* 66, no. 1 (January 5, 2017).

Additional existing research also lends support to this hypothesis, finding that inter-household exchanges of goods within families are more likely in White families (which tend to experience parental death at a later age) than among other racial groups.<sup>29</sup>

### The Intersection of Race and Income

Having evaluated the link between each of these socioeconomic indicators (income, education, and race) and parental mortality individually, it is also important to consider patterns of interaction between these factors. In this section, we consider the way in which different combinations of race and poverty status are linked to parental loss.



Source: U.S. Census Bureau, Survey of Income and Program Participation, 2014 panel, Wave 1.

Figure 7 shows the percent who have lost at least one parent, comparing Blacks who are not in poverty with Whites in poverty. For each age group, the percent of Blacks who are not in poverty who have lost a parent is at least as high, and sometimes higher than, the percent of Whites

<sup>29</sup> Lee, Yean-Ju, and Isik A. Aytac. "Intergenerational Financial Support among Whites, African Americans, and Latinos." *Journal of Marriage and Family* 60, no. 2 (May 1998): 426-41.



in poverty who have lost a parent. This outcome demonstrates that even with more economic resources, Blacks do not tend to lose their parents later in life than Whites who are in poverty.

## **Conclusion**

Having a living parent or parents plays a key role in the life of a child. The benefits of parental transfers often persist throughout the life course, even after the ‘child’ has become an adult, with parents potentially offering financial, emotional, and material support to their children, especially as these ‘children’ reach child-rearing age themselves.

Ostensibly, individuals with lower income, lower educational attainment, and those from communities that experience lower life expectancy would benefit most from parental support. However, our findings indicate that these same groups are the ones that experience parental loss earlier in life, along with the psychological and material consequences that often accompany such an event.<sup>30</sup> As a result, these individuals are unable to leverage the transfers described above. Potential avenues for further research include an analysis of the way in which the loss of one parent affects an individual’s likelihood to coreside with their remaining living parent. These findings and future research opportunities demonstrate the unique utility of the 2014 SIPP as a means of assessing the way in which various socioeconomic and demographic factors are linked to the timing of parental loss in the United States.

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<sup>30</sup> See Umberson and Chen, “Effects of a Parent’s Death on Adult Children”.

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