



Material Hardship and the Living Arrangements of Older Americans

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Abstract

This study investigates the extent to which the household living arrangements of older adults influences their experiences of material hardship. Using data from the 2014 Panel of the Survey of Income and Program Participation, we run linear probability models with individual fixed effects to estimate the likelihood that a change in living arrangements predicts a change in food insecurity, housing hardship and utility hardship. Although household living arrangements are associated with reports of material hardship for older adults, individual fixed effect models point to a reduced role for the change in living arrangements on the change in the probability of experiencing material hardship. For older adults, we find that moving into a non-family household increases the risk of housing hardship. This study illustrates how the risk of material hardship related to family living arrangements changes over the life course. We call for increased attention to the risk of material hardship for older adults living alone, those in multigenerational living arrangements, and non-family households.

Keywords Food insecurity · Utility hardship · Housing hardship · Multigenerational households · Single person households · Older adults

Household living arrangements in America have been in a state of evolution for some time. There has been a trend away from the conventional family cycle in that people no longer singularly experience the linear progression of being single to living with a spouse to having children and, finally, to death (Cherlin, 2010). Instead, we see changing dynamics of household formation and dissolutions that challenge the historical definition of households. Through the past century average household size has been declining, from 3.68 people in 1940 to only 2.58 people in a household in 2010 (Mather et al., 2019). This change has largely been driven by changes in marriage, cohabitation, and childbearing. There has been a significant decrease in married couples and particularly married couples with children, as well as an increase in the share of one person households (Mather et al., 2019; Smock & Schwartz, 2020). However, since 2010, there are signs of a reversal in the trend of smaller household sizes. A number of studies now demonstrate that there has been a revival of multigenerational family households, increasing since the 1990s and significantly accelerated by the impact

of the Great Recession and possibly the COVID-19 pandemic (Dunifon et al, 2014; Ellis & Simmons, 2014; Kreider & Ellis, 2011; Mykyta & McCartney, 2012; Pilkauskas, 2012; Taylor et al., 2010; Wiemers, 2014). Although there are many studies documenting these demographic changes and their subsequent impact on household formation, there is less research that focuses on the implications of these changes on the financial well-being of older populations (Agree, 2018).

We explore the extent to which the household living arrangements of older adults aged 60 and above influences their economic well-being and are associated with their experiences of material hardship. With whom seniors live is determinative of many dimensions of the financial, instrumental, social, and emotional resources that they have to call upon in their daily life. Additional residential household members may bring new resources in each of these domains to the household. However, additional household members may also come with added demands on the household resource pool and these demands may be greater than the resources they bring, resulting in an inability to cover the essential needs of everyone in the household. To probe this relationship more fully, we explore the relationship between household living arrangements and three types of

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material hardship (food insecurity, housing hardship, and utility hardship).

Material hardship measures provide direct indicators of a household's ability to cover basic needs and, although moderately correlated with poverty (Iceland & Bauman, 2007; Sullivan et al., 2008), provide additional information about well-being over and above income poverty (Heflin et al., 2009). For multifamily households, in particular, it is possible that income-based measures, which assume resource sharing, may offer a different picture of well-being than material hardship measures, which more directly focus on the ability of household members to cover basic needs. We focus our lens on the end of the life course when financial resources are likely to be much less dynamic than in prime adulthood but when consumptive pressures required for daily living may change over time. The economic well-being of older adults provides insight into the ways that cumulative disadvantages are observable at the end of the life course, as well as the effectiveness of institutional structures of support targeted at this group.

Using longitudinal nationally representative data from the 2014 Panel of the Survey of Income and Program Participation, we explore the extent to which changes in household living conditions are predictive of changes in reports of material hardship for older adults aged 60 and older. Using models that control for income as well as individual fixed effects, or unmeasured sources of heterogeneity that may be correlated with both living arrangements and material hardship, we separately examine the likelihood that a change in living arrangements predicts a change in food insecurity, housing hardship and utility hardship. To capture different facets of living arrangements, we explore seven categories of household living arrangements in which older adults may find themselves—married couple with children present, married couple without children present, male householder living alone, female householder living alone, multi-generational households without children, multigenerational households with children, and non-family households. For comparison across the life course, we also present parallel models for prime-aged adults in the appendix.

Background

Historical Changes in Living Arrangements Among Older Adults

Historically, older populations have had a high likelihood of being part of a multigenerational family. In the 1850s, two-thirds of the White population aged 65 and over lived with an adult child (Ruggles, 2007). However, over the course of the past century, the living arrangements of this age group have changed as intergenerational co-residence

declined. Scholars argue that growing incomes, the enactment of Social Security and Medicare, and improvements in life expectancy contributed to the ability of older people to live independently and avoid returning to their children's homes in old age (Engelhardt et al., 2005; McGarry & Schoeni, 2000; Taylor et al., 2010). Ruggles (2007) finds that the decline of the multigenerational family was also driven by the transformation of the economy and greater job opportunities for the young, coupled with decreased parental control over their children. Younger generations were no longer required to or incentivized to work on the family farm or business and instead left to pursue wage generating opportunities in the city (Ruggles, 2007). Due to these factors, today we see a greater share of the older population that lives alone or with their spouse or partner, as well as a segment of the population that lives in institutional settings such as nursing homes or assisted living facilities (Pfeiffer et al., 2016), although there is also a resurgence of the share of elderly who live in multigenerational families (Kamo, 2000; Taylor et al., 2010). Below we develop our conceptual framework for how specific household living arrangements may affect the risk of material hardship for older adults.

As of 2018, 46% of non-institutionalized Americans aged 60 and above lived with a spouse (Ausubel, 2020). There is a well-established literature documenting the link between marriage and higher standards of living, arguing that married couples have more economic resources and benefit from economies of scale (Waite & Gallagher, 2001). Marital homogamy and positive assortative matching enhance this relationship, as people with similar educational backgrounds, socioeconomic status, health, race, and age marry each other (Qian & Lichter, 2011; Schwartz, 2013; Schwartz & Mare, 2012). For older populations, the literature on the benefits of marriage also demonstrates that marriage and support from a partner is associated with positive healthy behaviors and a reduction in all-cause mortality (Manzoli et al., 2007). Married couples immediately have someone who can help them in times of need, delaying the need for co-residence with other family (Mutchler & Burr, 2003). Previous research has found that older adults living with a spouse were more likely to receive recommended preventative care relative to older adults living alone or with at least one adult offspring (Lau & Kirby, 2009). Similarly, another study found that older adults living with a spouse were less likely to experience delayed healthcare due to cost or transportation difficulties relative to living alone or with non-spousal others (Henning-Smith et al., 2016). Given the economic and health advantages that marital status conveys throughout the life course (Rendall et al., 2011; Stimpson et al., 2012; Zissimopoulos et al., 2015), we expected that older adults living with their spouses would be advantaged with respect to material hardship relative to those that living in all other household arrangements.

Trending with the general population, non-institutionalized older populations also saw an increase in the proportion of households occupied by single persons from 18% in 1960 to 28% in 2012 (Administration on Aging, 2012). In some cases, the transition to living alone in older populations is associated with higher income and better health (Mutchler & Burr, 1991). For example, increased income from Social Security has been shown to be associated with rising residential independence for older populations (McGarry & Schoeni, 2000).

However, the experience of living alone for older populations varies significantly by gender (Taylor et al., 2010). There are a greater number of older single women as women have longer life expectancies and have likely outlived their husbands and transitioned to widowhood (Gillen & Kim, 2009). It is well-documented that single older women are significantly more financially vulnerable and more likely to be in poverty than married older women and older men, a vulnerability tied to their economically disadvantaged position earlier in life (Angel et al., 2007; Lee & Shaw, 2003; Munnell, 2004; Sevak et al., 2003). Widows are hard hit when their spouse dies as they lose the spouse's income, although they may retain survival benefits from pensions and Social Security (McGarry & Schoeni, 2005). This is coupled with lower lifetime earnings of women, and expenses associated with the spouse's death (Gillen & Kim, 2009). Given these factors, we would expect older men living alone to be advantaged with respect to material hardship compared to older women living alone. Further, among older women living alone, widows have an economic advantage relative to never married women who do not have access to spousal survival benefits or private pension wealth (Weaver, 2010; Weir & Willis, 2000).

Although living with a spouse remains the most common household arrangement for older adults, there is a resurgence in older populations living in multigenerational households (Taylor et al., 2010). Older adults are now increasingly living with their adult children. Co-residence with adult children is often assumed to be related to the needs of the older adult: Kamo describes this as *upward household extension* where an older adult moves in with their adult children (2000). Despite improvements in life expectancy and health, older populations eventually need assistance with day-to-day activities (Agree, 2018). Family and informal care networks remain one of the main sources for caregiving amongst older populations who are experiencing declining health, need for care, or the death of a spouse, leading to the formation of multigenerational households (Carr & Utz, 2020; Compton & Pollak, 2013; Keene & Batson, 2010; Redfoot & Hauser, 2010; Silverstein & Giarruso, 2010). In addition to health concerns, economic resources are still believed to have the most influence on later life living arrangements, as research shows that older adults with more economic resources live

alone or with their spouse even as their health fails (Burr & Mutchler, 2007; Mutchler et al., 2017; Soldo et al., 1990). Pfeiffer et al. found that seniors experiencing economic distress during and after the Great Recession moved into multigenerational households to help buffer the negative impact (2016).

The Connection Between Living Arrangements and Material Hardship

A large body of literature recognizes co-residence with family members as a form of social support and financial relief that is used to prevent material hardship (Bengston, 2001; Bush & Shinn, 2017; Seefeldt & Sandstrom, 2015; Skobba & Goetz, 2015; Wiemers, 2014). This living arrangement can be helpful if there is resource sharing and pooling, including lowering rent costs per head and increased help with household tasks that reduce material hardship such as shopping, cooking, access to timely medical care, and management of finances (Dunifon et al., 2014; Kamo, 2000). Having an additional adult in the household could also make households eligible for public benefits, thereby reducing hardship (Mykyta & Pilkauskas, 2016). With upward household extension, older populations may experience an improved standard of living due to economies of scale and the pooling of resources from their children's income, as well as their own retirement savings and assets (Tai & Treas, 2009). The hypothesis that upward extension is present would be supported by the finding that transitions into multigenerational households result in reduced levels of material hardship among older adults.

On the other hand, there is also evidence suggesting that the increasing proportion of multigenerational households in recent years is due in large part to the downward mobility of younger generations, exacerbated substantially by the Great Recession (Fry & Passel, 2014; McGarry, 2016; Mykyta & McCartney, 2012; Pilkauskas et al., 2014; Taylor et al., 2010; Treas & Sanabria, 2016; Wiemers, 2014). This transition is described as *downward household extension*, where senior populations remain the household head and their adult children move in with them (Kamo, 2000). Whereas this phenomenon is driven in part by job loss, declining employment, and low wages, it is also reflective of the younger generations delayed entry into adulthood (Aquilino, 1990; Fry & Passel, 2014; Kahn et al., 2013). Pew Research Center studies show that young adults are marrying at later ages, and staying in school for longer (Cohn, 2013). This living arrangement has the potential to substantially impose an economic burden on older adults if their adult children do not contribute their share to household expenses. This household type can lead to stretching already limited resources for additional family members (Mykyta & Pilkauskas, 2016). In the case of downward household extension, we expected

transitions into multigenerational households to be accompanied by greater material hardship, as adult children are likely unable to contribute sufficient resources to the household to cover their expenses.

Multigenerational households with children below the age of 18 can impact older populations experience with material hardship differently. This includes three generation households (grandparents, adult children, and grandchildren) or skipped generation households (grandparent and grandchild) (Cohen & Casper, 2002; Pikauskas, 2012; Smock & Schwartz, 2020). Grandparents are often seen as the “first line of defense” for families with children who are experiencing material hardships or disruption due to parental separation, divorce, health problems, socioeconomic status, or death (Mutchler & Baker, 2009). There is a strand of literature demonstrating that three generation co-residence is helpful for children’s outcomes and well-being through increased availability of economic resources and parenting and supervisory resources through grandparents providing childcare (Mutchler & Baker, 2009; Pikauskas, 2012; Sun & Li, 2014). However, there is little discussion on the impacts of these household types on the economic well-being of grandparents.

Similar to multigenerational households without children, this household set up can be beneficial to older adults through pooled incomes and sharing household tasks (Bethell, 2011; Cohen & Casper, 2002; Mutchler & Baker, 2009; Ruggles, 2003). Yet, it is also likely that the conditions that prompted the adult children with their children to move into their parents’ homes will limit their ability to help their parents financially, imposing additional expenses and burdens on the grandparents (Pfeiffer et al., 2016). Grandparents may also be physically and mentally burdened by taking care of a young child, as well as the potential stress from conflicts centered around childcare and discipline (Oberlander et al., 2009). Studies have found that grandparent co-residence is associated with higher levels of stress and depression amongst the grandparents (Musil & Ahmad, 2002). These factors are especially salient in skipped generation households where the grandparent is the only source of income and provider for the grandchild. Income meant originally to support one or two adults in their retirement must now be used to fulfil the needs of all the grandchildren (Baker & Mutchler, 2010). Grandparents do not often get legal custody of their grandchildren, limiting their ability to benefit from family and parental aid programs (Cox, 2009). Additionally, if they are eligible for certain relief packages, they might be required to return to work to receive them (Baker & Mutchler, 2010). Prior research from Ziliak and Gunderson (2016) found that the rates of food insecurity in households with a grandchild present were approximately twice as high as households without a grandchild present. Based on this prior research, we expected that multigenerational households

with children below the age of 18, which includes three generation households, grandparent-headed households, and skipped generation households, are more likely to experience material hardship than all other household types.

Towards a Model of Living Arrangements and Material Hardship

Beyond the factors outlined above, research shows that patterns of living arrangements are influenced by race, ethnicity, and gender (Mutchler & Baker, 2009). Women, especially Black women, are most likely to provide and extend their households and resources to adult children and older parents, suggesting that their experience with material hardship will be different from that of men (Cohen & Casper, 2002). In terms of racial differences, research finds that Asian and Latino households are much more likely to bring older parents into their homes, whereas White and Black households trend towards living with their older parents (Kamo, 2000; Wilmoth, 2001). Glick and Van Hook found that older immigrants were far more likely to live in multigenerational families because of reconstitution policies that allow parents to join their children in the United States (Van Hook & Glick, 2007). The differential experiences of living arrangements by gender, race, and immigrant status highlight the importance of considering those demographic factors when evaluating the relationship between living arrangements and material hardships.

Similarly, it is imperative to understand that initial endowments of health and income of both the “host” and the “guest” modify the relationship between living arrangements and material hardships. If the individual moving into a family member’s household suffers from poor health, this will likely worsen the experience of material hardship. Providing care for people experiencing declining health and/or disability status is associated with significant burdens (Freedman et al., 2014). There is observable burden, defined as the additional costs and time spent providing care and doing all household chores and tasks without help. There is also perceived burden, which is defined as the emotional well-being, that highlights the distress, guilt, and cognitive burden for the caregiver (Freedman et al., 2014; Lin et al., 2012). Comparably, income levels are integral to influencing the patterns of living arrangements and the relationship with material hardship. If the living arrangement entails pooling income, while also sharing the work involved in maintaining a household, there will be a negative relationship with material hardship (Seltzer & Yahirun, 2013). However, if the guest or the host is unemployed or struggling to generate sufficient income, having additional individuals to feed and provide shelter for will add to the existing burden.

Our focus on the relationship between transitions in living arrangements and three measures of material hardship—food

insufficiency, utility hardship, and housing hardship—seeks to complement and extend existing literature on the effects of cumulative disadvantage within the family on the economic well-being of older adults. While income-based measures of economic well-being provide a broad measure of the financial resources available within a household, material hardship measures provide a more explicit measure of the extent to which resources are sufficient to meet basic needs (Sen, 1983). We explore three domains of hardship because they represent different basic needs (food, housing, and heat, water and electricity) and previous research has demonstrated that they represent distinct social processes (Heflin et al., 2009) with different consequences for older adults (Ziliak & Gundersen, 2020). While previous research on material hardship has tended to focus on households with children (Baker & Mutchler, 2010; Gershoff et al., 2007; Neckerman et al., 2016; Rodems & Shaefer, 2020; Yoo et al., 2009) this study brings a life course perspective with a focus on older adults to the question of how family living arrangements influence economic well-being.

Based on the prior work presented above, we tested the following hypotheses:

H1 Among older adult households, married couple households will have the lowest probability of each form of material hardship, regardless of the presence of children.

H2 Among older adult households, single female households will have higher levels of material hardship than single male households.

H3 Among older adult households, multigenerational households will have the highest levels of material hardship, regardless of the presence of children.

H4 Changes in household type will be associated with higher levels of material hardship for single adult households (both male and female) and multigenerational households with children.

Data, Measures, Methods

We used the 2014 Panel of the Survey of Income and Program Participation (SIPP) to explore the relationship between living arrangement and material hardship among older adults. The SIPP is a nationally representative longitudinal household survey conducted by the U.S. Census Bureau. In the 2014 Panel, the entire sample of 53,070 households is surveyed annually for a 4-year period. Data are collected using an event history calendar to trigger recall of other events, such as a change in living situation. All survey questions are repeated at each wave, rendering four potential observations for each household. The response rate for the

SIPP over the 4-year period was 70.19% (U.S. Dept of Commerce, 2016). The 2014 SIPP is ideally suited for this project because it is the only data source that contains longitudinal panel data on our outcomes of interest—food insecurity, utility hardship and housing hardship. The original SIPP 2014 sample included 82,464 individuals of all ages who were present for at least one survey wave. For our analytical sample, we constructed a person-wave dataset for individuals aged 60 years and above (excludes 65,817 individuals). We defined our analytic sample using age 60 (instead of the more common age 65) cut-off based on the U.S. Department of Agriculture’s definition of a senior household that is subject to different eligibility and benefit determination processes. We further excluded individuals who were missing information on the control variables and their household relationships, as without this key information we were unable to categorize individual’s household types (excludes 636 individuals). Finally, in order to estimate fixed effect models, we limited our analysis to individuals who were present in at least two consecutive waves within the SIPP panel (excludes 2733 individuals). This left us with an analytical sample of 13,278 unique individuals aged 60+ years, with a total of 44,078 person-year observations (our analytic sample pooled over the 4 potential survey periods).¹

Drawing from previous literature on living arrangements, we defined a household as all the people who occupy a single housing unit, regardless of their relationship to each other (U.S. Dept of Commerce, 2016). The 2014 SIPP includes a variable that describes the relationship of the interviewed reference person to the other household members. The reference person in each household is identified by the SIPP survey instrument as the owner or renter of the housing unit. Using this categorization, we established the relevant housing types based on the household occupants’ relationship to the reference person.

We created the following household types: married couples who are living in the same residence with children, married couples living in the same residence without children, single males, single females, multigenerational family with children below 18 years, multigenerational family with no children below 18 years, and other non-family households. Married couple with children was coded to include any household where a married opposite or same sex couple resided with each other and with their biological, adopted, and/or stepchildren who were ages 18 or below. Married couple without children was coded to include any household where a married opposite or same sex couple lived together,

¹ Our analytic sample is on average less white, more educated, in better health, US citizens, more likely to be single, and more food insecure than the attritors. We outline how this biases our results in our limitation section.

with no children or non-spousal other present in the household. A single unit was coded as anyone over the age of 18 who lived alone. For the purposes of our analysis, we split this into male and female single units. A multigenerational family was coded to include any household where the reference person lived with their adult children, grandchildren, parent, grandparent, sibling, parent/child-in-law, sibling-in-law, aunts, uncles, nieces, nephews, foster children, or any other family member. For the purposes of our analysis, we split this category into multigenerational households with children ages 18 years and below present, and households without children 18 years or below. For multigenerational families with children, this could be the reference person's own children, or it could be nieces, nephews, cousins, or grandchildren that were 18 years or below. Finally, other non-family household was coded as anyone who lived in a household with an opposite or same sex unmarried partner, housemate/roommate, roomer/boarder, and/or other nonrelative.

For our outcomes of interest, we focused on three measures of material hardship that have been used previously and that are observable for up to four times—food security, housing hardship, and utility hardship (Altman et al., 2020; Heflin, 2016, 2017; Rodems & Shaefer, 2020). Food security was measured through an abbreviated 6-item version of the full, 18-item food security module used in the Current Population Survey that has been validated by USDA (Nord & Nord, 2006). The SIPP asked respondents whether the food they bought did not last, whether they could not afford balanced meals, and whether the size and frequency of their meals were cut. Additionally, respondents were asked whether they personally ever ate less or went hungry because there was not enough money to buy food. Here, following the convention in the field (Altman et al., 2020; Heflin, 2016, 2017; Rodems & Shaefer, 2020), we define food insecurity as a binary variable where a household that affirmed two or more food insecurity problems is classified as food insecure. Housing hardship indicates whether, in the prior 12 months, the household was not able to pay their rent or mortgage (versus those that were able to pay their rent or mortgage). Utility hardship indicates if the household was not able to pay the full amount of gas, oil, or electricity bills (versus those that were able to pay these bills).

We controlled for demographic characteristics that have been shown to be associated with both living arrangements and material hardship. We coded race and ethnicity as White-non Hispanic (the reference group), Black Non-Hispanic, Hispanic, and Other, for other identities not elsewhere classified. We controlled for age in years and the ratio of family income to the household size, known as the family

income-to-poverty ratio. We included gender (female was the omitted reference group), four levels of education—less than high school, high school, some college—with a 4-year degree or more as the reference group. We created a measure that integrates both citizenship and nativity information into three categories—non-native citizens, non-native non-citizens, and native citizens. We also included a binary measure of self-rated health (1 = fair or poor health; 0 = excellent, very good or good) and living in a metropolitan area. Finally, we included dummy variables that indicate the SIPP wave of the observation, which correlated with changing economic and policy conditions.

Statistical Analysis

For each of our three measures of material hardship, we began by estimating linear probability models for the probability of reporting each domain of material hardship as a function of the living arrangement of the sample member, controlling for our set of demographic characteristics, income, and health measures. These models used the pooled sample of SIPP respondents in our analytic sample and captured the association between household living arrangement and different domains of material hardship. While this provided us with helpful information on the relationship between living arrangements and material hardship, these reduced-form descriptive models likely suffered from selection bias as the observed living situation could be the result of a systematic process that is both unobserved and correlated with material hardship. We both corrected for heteroskedasticity and clustered the standard errors at the individual level to account for the lack of independence between observations.

Then, in order to explore the extent to which these results were sensitive to the inclusion of individual fixed effects, or unmeasured characteristics which are constant over time, such as generosity, we re-estimated the models including individual fixed effects. Fixed effect models estimated how the change in living arrangement changes the probability of reporting each form of material hardship and produced results that approximate a causal relationship. Once again, for all models presented, we have clustered the standard errors at the individual level and corrected the standard errors for heteroskedasticity. Finally, while our narrative focused on results for the older adult sample, we also provide parallel results for the prime-aged sample in the appendix to allow for an explicit comparison of how household change and material hardship are related over the life course. All statistical analyses were estimated with STATA/SE version 13.0.

Table 1 Weighted descriptive statistics

Variable	Age group: 19–59	Age group: 60+
Outcomes		
Food security		
High or marginal food security (%)	86.01	92.29
Low or very low food security (%)	13.99	7.71
Unable to pay rent (%)	8.46	3.45
Unable to pay for utilities (%)	11.26	5.30
Household types		
Married, with children (%)	30.76	0.93
Married, no children (%)	15.70	48.23
Single male (%)	9.17	9.67
Single female (%)	6.61	18.61
Multigenerational, with children (%)	9.43	4.88
Multigenerational, no children (%)	19.10	14.99
Other non-family (%)	10.59	3.02
Controls		
Age	39.36	70.75
Male (%)	50.96	45.51
Female (%)	49.04	54.49
Non-Hispanic white (%)	61.80	76.35
Non-Hispanic black (%)	11.15	9.72
Non-Hispanic other (%)	8.83	5.70
Hispanic (%)	18.23	8.23
Native citizen (%)	79.74	87.14
Non-native citizen (%)	9.82	10.03
Non-citizen (%)	10.43	2.83
Education		
Less than high school (%)	10.80	15.39
High School/GED (%)	27.40	32.58
Some college (%)	30.31	24.17
College + (%)	31.49	27.86
Family income-to-poverty ratio	4.38	4.61
Binary Health		
Fair/poor health (%)	12.44	27.94
Good/excellent health (%)	87.56	72.06
Metropolitan Area (%)	85.83	81.79
N	23,828	11,852

The descriptive statistics are based off weighted observations of the analytical sample in Wave 1

Results

Table 1 provides descriptive statistics of our analytical sample. Among individuals in the 60 and older age group, rates of food insecurity were 7.8%, 3.5% had a housing hardship, and 5.3% a utility hardship. Older adults were most likely to be married with no children present (48.2%); less than 1% of older adults were married and living with their own children age 18 or younger. Additionally, 18.6% of the older adult population were females who live alone—twice the level of single males living alone (9.7%). Multigenerational living arrangements were common with 15% of older adults

living in a multigenerational household without children and 4.9% living in a multigenerational household with children present. In line with expectations, fewer older adults were living with other non-family members (3%). Relative to the rest of the population, older adults were also whiter, comprised of more native citizens, and were more likely to be experiencing fair or poor health, as expected.

In Table 2, we start by presenting the results for the measure food insecurity with Model 1 showing results for the OLS model using the pooled sample, and Model 2 for fixed effect models. We began with Model 1 as this descriptive model presented information regarding the demographic

Table 2 Linear probability and fixed effects models of food insecurity for individuals aged 60+ years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.0219	(0.0134)	0.104	-0.0123	(0.0208)	0.554
Single male household	0.0676	(0.00741)	0.000***	0.00650	(0.0163)	0.690
Single female household	0.0668	(0.00570)	0.000***	-0.00418	(0.0137)	0.760
Multigenerational, with children	0.0402	(0.00948)	0.000***	-0.00780	(0.0163)	0.633
Multigenerational, no children	0.0274	(0.00493)	0.000***	0.00370	(0.00884)	0.675
Other non-family	0.0414	(0.00774)	0.000***	0.00874	(0.00955)	0.360
Constant	0.308	(0.0168)	0.000***	0.209	(0.161)	0.194
Observations	44,078			13,278		
R-squared	0.093			0.003		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 60+ year old population and include dummy variables for the SIPP wave. Food insecurity is defined by affirming two or more questions. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses

*** $p < 0.001$

characteristics associated with the different living situations of older adults and their correlation with material hardship. We found that relative to married households without children, living alone was associated with a 6.7–6.8 pp higher level of food insecurity among older adults of either sex.² The probability of being food insecure was higher among those living in multigenerational households with children (4 pp) and multigenerational households without children (2.7 pp).³ Finally, non-family households had a higher probability of being food insecure by a magnitude of 4.1 pp for older adults. For the small share of older adults who are married without children, we found no differences in their probability of being food insecure relative to older adults who are married but not living with children. This is a result that we found repeated throughout the hardship domains regardless of the model used, which was at least partially due to the lack of statistical power from the low number of older adults living in that household type.

In Model 2 of Table 2, we modelled the change in food insecurity status as a function of a change in living arrangements and include individual fixed effects, which approximated a causal relationship. Models with individual fixed effects essentially estimated the within person change in the probability of food insecurity that is attributed to the

change in household living situation. Generally, we found that the role of living arrangement was diminished relative to the pooled sample estimates. For example, we found that a change in any of the living situations identified here was not associated with a change in food insecurity for older adults.⁴ The fact that Model 1 shows an association between living arrangement and food insecurity that is not observed in Model 2 suggests that unobserved differences in selection into living arrangements, such as cumulative disadvantage over the life course, are driving the relationship with food insecurity and not the living arrangements themselves.

In Table 3, we turn to the domain of housing hardship, or the inability to pay the full amount of rent or mortgage. Results shown in Model 1 suggested that multigenerational living arrangements were associated with greater housing hardship among older adults: living in a multigenerational household with children or without children was associated with an increase in housing hardship (2.9 pp and 1.1 pp, respectively). Relative to their married with spouse present counterparts, single female adults had a 0.7 pp higher probability of housing hardship but the magnitude was twice as high among single male adults (1.4 pp). Finally, living in a non-family household was associated with a 2.1 pp higher risk of housing hardships among older adults.⁵

Model 2 in Table 3 presented our results for models of housing hardship that include individual fixed effects. We

² However, we do observe a greater gender difference in prime-aged, as we had expected (male 6.2 pp versus female 8.6 pp; see Appendix).

³ Note that among prime-aged adults, living in a multigenerational household with children is associated with a smaller risk (1.9 pp) and living in multigenerational households without children has no statistically significant relationship with the risk of food insecurity for the prime-aged sample. Additionally, living in a non-family household is associated with a 4.7 pp increase in the risk of food insecurity for the prime-aged sample.

⁴ Among the prime-aged sample, moving into a married household with children or a multigenerational household with or without children is similar to moving into a married household without children, whereas living alone (regardless of gender) increases the risk of food insecurity.

⁵ Once again, the risk of living in a non-family household is associated with a lower risk for prime-aged adults (1.2 pp).

Table 3 Linear probability and fixed effects models of housing hardship for individuals aged 60+ years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.0128	(0.0115)	0.263	−0.000621	(0.0160)	0.969
Single male household	0.0144	(0.00382)	0.000***	0.00692	(0.0118)	0.558
Single female household	0.00677	(0.00277)	0.0145**	−0.00194	(0.0111)	0.861
Multigenerational, with children	0.0286	(0.00605)	0.000***	0.0172	(0.0137)	0.210
Multigenerational, no children	0.0108	(0.00305)	0.000***	−0.00103	(0.00691)	0.882
Other non-family	0.0210	(0.00530)	0.000***	0.0137	(0.00745)	0.0659†
Constant	0.104	(0.00920)	0.000***	−0.139	(0.122)	0.257
Observations	44,078			13,278		
R-squared	0.022			0.002		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 60+ year old population and include dummy variables for the SIPP wave. Housing hardship defined by being unable to pay their rent or mortgage. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses

† $p < 0.10$. ** $p < 0.05$. *** $p < 0.001$

Table 4 Linear probability and fixed effects models of utility hardship for individuals aged 60+ years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.00990	(0.0124)	0.424	−0.0101	(0.0184)	0.584
Single male household	0.0196	(0.00504)	0.000***	−0.00815	(0.0159)	0.609
Single female household	0.0221	(0.00413)	0.000***	0.00427	(0.0144)	0.767
Multigenerational, with children	0.0478	(0.00806)	0.000***	0.0111	(0.0155)	0.475
Multigenerational, no children	0.0240	(0.00412)	0.000***	0.0119	(0.00887)	0.181
Other non-family	0.0252	(0.00648)	0.000***	0.0153	(0.00951)	0.108
Constant	0.171	(0.0126)	0.000***	−0.362	(0.176)	0.0396**
Observations	44,078			13,278		
R-squared	0.043			0.002		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 60+ year old population and include dummy variables for the SIPP wave. Utility hardship is defined by being unable to pay the full amount of gas, oil, or electricity bills. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses

** $p < 0.05$. *** $p < 0.001$

found that moving into non-family household was marginally associated with an increased risk of housing hardship ($p < 0.10$) among older adults. Similar to our results for food insecurity, we found that transitions in the other living arrangements are not associated with a change in the risk of housing hardship.

Table 4 presents results for utility hardship. Beginning with results from Model 1, we found that, once again, relative to married households without children, living in a married household with children conferred no added risk for older adults. We found that both single male and female households had a positive association with utility hardship relative to their married counterparts without children present but that the risk was higher both among single female

households (2.2 pp) than it was among male households (2.0 pp). Multigenerational households with children had a higher probability of a utility hardship (4.8 pp) and living in a multigenerational household without children was associated with an increase in the probability of utility hardship (2.4 pp). As with the other forms of material hardship, non-family households faced an increased risk of utility hardship (2.5 pp).

In Model 2 of Table 4, we found no statistically significant relationship between changing living situations and the risk of reporting a utility hardship. We interpreted the consistency of our weaker findings in Model 2 to suggest that, while specific living situations are associated with an increased risk of food insecurity, housing hardship and

utility hardship among older adults, the risk of material hardship is not so much related to the living situation itself as the unobserved factors (i.e., the cumulative disadvantage over the life course) that lead to the selection into that particular living situation. This is an important distinction that has both research and policy implications that we return to at the end of the paper.

Across each of these forms of material hardship, Hispanic and Black households had a higher probability of reporting a hardship than White households, the reference group (see full models results in Appendix Tables 9, 10, 11). Non-native citizens had a lower probability of reporting material hardship than did Native born citizens with one exception; the non-native citizens had a higher probability of reporting a housing hardship. Non-native non-citizens also had a higher likelihood of reporting a housing hardship. As the education level increased, the risk of reporting each hardship decreased. Poor health was positively associated with each hardship domain, whereas the family income to poverty ratio was negatively associated. Metropolitan residence was positively associated with housing hardships, but statistically insignificant for the other outcome measures.

In results shown in the appendix, we compared the results of our older adult sample to a sample of prime aged adults ages 19–59 for our three hardship domains (Tables 6, 7, 8). A few patterns stand out. First, results for the prime aged sample followed the same general pattern in that living situation was highly associated with the risk of material hardship in the cross-sectional models but was rarely statistically significant in models that control for individual fixed effects. Similarly, older adults living in multigenerational households with children was associated with the highest risk examined for housing and utility hardship, which was the same for the prime-aged population. Living alone, regardless of gender, was associated with a much higher risk of food insecurity among the prime-aged and older populations than the other living arrangements. The main exception to this similar pattern was found for the fixed effects models in which moving into a single male household, single female household, or a non-family household were all associated with a higher risk of food insecurity; and moving into a single male household was associated with a reduction in the risk of housing hardship for the prime-aged compared to older adults.

Discussion

This study explores the relationship between the living arrangements of older adults and the risk of material hardship. We explored the static correlation and then estimated the effect of a change in living arrangements on the risk of material hardship using individual fixed effect models.

Our results suggest that household living arrangements are highly correlated with reports of material hardship for adults in the later portion of the life course (Tables 2, 3, 4). That is, the economic advantages from living in a married household continue to accrue later in life and across the domains of food insecurity, utility hardship, and housing hardship. The risk of reporting material hardship is higher in each of the other living arrangements and is particularly high for those in single female or single male households for food insecurity and in multigenerational households with children present for housing and utility hardship. However, this relationship is more likely due to the negative selection process into these household arrangements, which may well have been operating across the life course. For example, older adults in single female households may have spent a large portion of their lives living without the benefit of an additional household income as well as earning less than similar men. Together, the cumulative disadvantage of these structural factors may place single female households at an increased risk of food insecurity, utility hardship and housing hardship in older age. Similarly, we found no evidence that living in multigenerational households (either with or without children) is protective against material hardship. In fact, in cross-sectional results, multigenerational households consistently had higher levels of food insecurity, utility hardship and housing hardship than married couples, a finding consistent with the downward extension hypothesis presented earlier. However, this finding was not robust to the inclusion of individual fixed effects, which prevents us from taking a definitive stance on this issue, especially given the sample limitations noted below.

Overall, individual fixed effect models estimating the effect of a change in living arrangement point to a reduced role for the change in living arrangements on the change in the probability of experiencing material hardship among the older age population. For example, we observed that moving into a multigenerational household confers no added risk of hardship among the older age, despite the consistent positive correlation found in the cross-sectional analysis. However, among the prime-aged sample the results are different: moving into a multigenerational household without children decreases the risk of housing hardship among prime-aged adults but is only marginally significant ($p=0.106$), providing limited support that multigenerational living arrangement may benefit the prime-aged while disadvantaging older adults. In addition, in the prime-aged sample, moving into a single person household (both male and female) is detrimental for food insecurity. These results demonstrate the importance of taking the life course perspective to consequences of family processes and considering the effects on older age populations separately from analyses of younger populations. Finally, for older adults we observed that moving into a non-family household is marginally associated

with an increased risk of a housing hardship. We discuss this finding further below.

Taken together, we believe that these analyses suggest that while household living arrangements are highly correlated with the risk of material hardship among older adults, the risk is less due to the living arrangements themselves and more to the life course factors and the social processes that lead to the particular living arrangements in the first place. Our findings suggest that given the observed vulnerability of specific living arrangements to specific forms of material hardship, it may be effective to target remediation efforts to address food insecurity, utility hardship and housing hardship to specific household types. However, to address the systemic vulnerability at a causal level will require intervening earlier in the life course.

This research has several limitations worth noting. First, although it is less of an issue than in previous panels, the 2014 SIPP suffers from sample attrition and to estimate fixed effect models we limited our analytic sample to those present in two adjacent observations. As noted earlier, our analytic sample comprises 79.8% of the full sample aged 60 and older and is positively selected with respect to both material hardship and family living situation, both factors that bias our results downward. Additionally, our material hardship questions use a 12-month time-frame and our living arrangement change may have occurred at any point in between survey periods so the period of exposure will vary. Finally, given that both living situations transitions and material hardship are relatively rare events, our results may be under-powered, suffer from attenuation bias and lack the precision to definitively indicate the true latent relationship.

There are several aspects of this study that deserve attention by future researchers. First, nonfamily households are a living arrangement about which very little is known. Yet it appears that living in this housing arrangement is associated with an increased risk of experiencing material hardship across the life course and moving into a nonfamily household increases the risk of experiencing a housing hardship. Although the cross-sectional results suggest that negative selection into this household forms one explanation for the higher risk, it is unclear what accounts for the extra risk at older ages for those who move into nonfamily households.

Second, although we expected to find that older single female households faced a higher risk of material hardship than single male households, our findings did not support this expectation. In the cross-sectional analysis the risk of material hardship is not statistically different between male and female single households and moving into these households was not associated with a change in the risk of material hardship. These findings suggest that the risk of hardship for those living alone may not be tied to the aging process but may originate much earlier in the life course. Giving the current focus on encouraging older adults to “age in place” and to live independently as long as possible, it is important to consider the risk of hardship associated with this housing arrangement and to gain a better understanding of how to support older adults avoid material hardship when they live alone. The availability of appropriate longitudinal data will be critical to the ability to examine the consequences of family processes across the life course on material hardship.

Finally, given the increase in young adults returning to their parents’ household in the COVID era (Creamer et al., 2020), our findings provide some evidence regarding the potential benefits and cost to older adults. We find that multigenerational households that include children less than age 18 are associated with a higher risk of material hardship than multigenerational households without children. Furthermore, the magnitude of the risk of material hardship associated with both types of multigenerational households is higher for older adults than among prime-aged adults, for whom both the magnitude and the precision of the estimate association is much smaller. While the Older Americans Act provides funding for home- and community-based services for vulnerable older adults across a range of household types, given the increases in co-residence that have occurred as a result of the COVID-19 pandemic, we might expect to see increases in levels of material hardship among older adults.

Appendix

(See Tables 5, 6, 7, 8, 9, 10, 11)

Table 5 Table with household types and changes

Household types	Ages 19–59 years old		Ages 60+ years old	
	Total	Transitions	Total	Transitions
Married, no children	3853	2189	6029	1185
Married, with children	7574	3235	159	205
Single male household	2593	1506	1322	342
Single female household	1992	1163	2524	586
Multigenerational, with children	2768	2002	758	508
Multigenerational, no children	5168	3103	2127	1227
Other non-family	2968	3957	454	1070
Number of individuals	26,314	26,314	13,278	13,278

This table provides information on the number of individuals aged 19–59 years and 60 and above in the different household type categories. The totals column shows the total number of individuals who are categorized within the different household types based on the first wave that the individual appears. The column entitled transitions provides information on the number of individuals who experience a change in their living arrangement from or to the specific household type category

Table 6 Linear probability and fixed effects models of food insecurity for individuals aged 19–59 years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.00159	(0.00417)	0.704	–0.00189	(0.00722)	0.794
Single male household	0.0617	(0.00707)	0.000***	0.0220	(0.0111)	0.0475**
Single female household	0.0861	(0.00825)	0.000***	0.0289	(0.0124)	0.0198**
Multigenerational, with children	0.0191	(0.00621)	0.00211***	–0.0141	(0.0100)	0.160
Multigenerational, no children	0.00629	(0.00476)	0.186	–0.0109	(0.00773)	0.159
Other non-family	0.0474	(0.00573)	0.000***	0.0134	(0.00770)	0.0807†
Constant	0.122	(0.00840)	0.000***	0.126	(0.0775)	0.103
Observations	81,742			26,314		
R-squared	0.098			0.008		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 19–59 year old population and include dummy variables for the SIPP wave. Food insecurity is defined by affirming two or more questions. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses

†p < 0.10. **p < 0.05. ***p < 0.001

Table 7 Linear probability and fixed effects models of housing hardship for individuals aged 19–59 years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.0134	(0.00319)	0.000***	0.00531	(0.00602)	0.378
Single male household	0.0108	(0.00506)	0.0325**	–0.0153	(0.00897)	0.0876†
Single female household	0.0113	(0.00535)	0.0342**	0.0119	(0.00944)	0.209
Multigenerational, with children	0.0157	(0.00471)	0.000***	–0.000256	(0.00846)	0.976
Multigenerational, no children	–0.000925	(0.00347)	0.790	–0.0101	(0.00623)	0.106
Other non-family	0.0119	(0.00400)	0.00288***	0.00142	(0.00621)	0.819
Constant	0.0504	(0.00596)	0.000***	0.137	(0.0609)	0.0245***
Observations	81,742			26,314		
R-squared	0.029			0.006		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 19–59 year old population and include dummy variables for the SIPP wave. Housing hardship defined by being unable to pay their rent or mortgage. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses

†p < 0.10. **p < 0.05. ***p < 0.001

Table 8 Linear probability and fixed effects models of utility hardship for individuals aged 19–59 years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.0132	(0.00372)	0.000***	0.0110	(0.00701)	0.118
Single male household	0.00972	(0.00574)	0.0906†	0.0126	(0.00985)	0.200
Single female household	0.0179	(0.00659)	0.00648***	0.00340	(0.0117)	0.771
Multigenerational, with children	0.0364	(0.00567)	0.000***	0.0145	(0.00986)	0.142
Multigenerational, no children	0.00543	(0.00417)	0.192	−0.00146	(0.00747)	0.845
Other non-family	0.0169	(0.00483)	0.000***	0.00869	(0.00732)	0.235
Constant	0.0732	(0.00712)	0.000***	0.184	(0.0678)	0.00671***
Observations	81,742			26,314		
R-squared	0.053			0.008		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 19–59 year old population and include dummy variables for the SIPP wave. Utility hardship is defined by being unable to pay the full amount of gas, oil, or electricity bills. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses

†p < 0.10. ***p < 0.001

Table 9 Full linear probability and fixed effects models of food insecurity for individuals Aged 60+ years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.0219	(0.0134)	0.104	−0.0123	(0.0208)	0.554
Single male household	0.0676	(0.00741)	0.000***	0.00650	(0.0163)	0.690
Single female household	0.0668	(0.00570)	0.000***	−0.00418	(0.0137)	0.760
Multigenerational, with children	0.0402	(0.00948)	0.000***	−0.00780	(0.0163)	0.633
Multigenerational, no children	0.0274	(0.00493)	0.000***	0.00370	(0.00884)	0.675
Other non-family	0.0414	(0.00774)	0.000***	0.00874	(0.00955)	0.360
Hispanic	0.0294	(0.00884)	0.000***			
Black	0.0506	(0.00710)	0.000***			
Other	0.0404	(0.0113)	0.000***			
Male	−0.00140	(0.00364)	0.701			
Age	−0.00413	(0.000228)	0.000***	−0.00200	(0.00232)	0.388
Non-native citizen	−0.0168	(0.00779)	0.0310**	−0.0690	(0.0366)	0.0595†
Non-citizen	0.0233	(0.0162)	0.152			
Less high school	0.0870	(0.00712)	0.000***	0.00725	(0.0229)	0.751
High school	0.0226	(0.00404)	0.000***	0.00978	(0.0195)	0.616
Some college	0.0136	(0.00410)	0.000***	−0.00357	(0.0192)	0.853
Fair/poor health	0.0908	(0.00412)	0.000***	0.0260	(0.00442)	0.000***
Family income-to-poverty ratio	−0.00506	(0.000351)	0.000***	−0.00506	(0.000351)	0.000***
Metropolitan area	0.00509	(0.00435)	0.242	0.00509	(0.00435)	0.242
Constant	0.308	(0.0168)	0.000***	0.209	(0.161)	0.194
Observations	44,078			13,278		
R-squared	0.093			0.003		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 60+ year old population and include dummy variables for the SIPP wave. Food insecurity is defined by affirming two or more questions. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses.

†p < 0.10. **p < 0.05. ***p < 0.001.

Table 10 Full linear probability and fixed effects models of housing hardship for individuals aged 60+ years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.0128	(0.0115)	0.263	−0.000621	(0.0160)	0.969
Single male household	0.0144	(0.00382)	0.000***	0.00692	(0.0118)	0.558
Single female household	0.00677	(0.00277)	0.0145**	−0.00194	(0.0111)	0.861
Multigenerational, with children	0.0286	(0.00605)	0.000***	0.0172	(0.0137)	0.210
Multigenerational, no children	0.0108	(0.00305)	0.000***	−0.00103	(0.00691)	0.882
Other non-family	0.0210	(0.00530)	0.000***	0.0137	(0.00745)	0.0659†
Hispanic	0.00825	(0.00455)	0.0701†			
Black	0.0309	(0.00429)	0.000***			
Other	0.00489	(0.00646)	0.449			
Male	0.00123	(0.00224)	0.583			
Age	−0.00133	(0.000124)	0.000***	0.00225	(0.00176)	0.202
Non-native citizen	0.0118	(0.00482)	0.0143**	0.0258	(0.0254)	0.308
Non-citizen	0.0356	(0.0104)	0.000***			
Less high school	0.0145	(0.00365)	0.000***	0.0147	(0.0197)	0.455
High school	0.00519	(0.00231)	0.0248**	0.00323	(0.0176)	0.854
Some college	0.00665	(0.00246)	0.00693***	0.00879	(0.0149)	0.554
Fair/poor health	0.0180	(0.00225)	0.000***	0.00332	(0.00314)	0.290
Family income-to-poverty ratio	−0.00119	(0.000174)	0.000***	2.83e-05	(0.000252)	0.911
Metropolitan area	0.00672	(0.00219)	0.00220***	0.0107	(0.00891)	0.231
Constant	0.104	(0.00920)	0.000***	−0.139	(0.122)	0.257
Observations	44,078			13,278		
R-squared	0.022			0.002		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 60+ year old population and include dummy variables for the SIPP wave. Housing hardship defined by being unable to pay their rent or mortgage. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses.

† $p < 0.10$. ** $p < 0.05$. *** $p < 0.001$.

Table 11 Full linear probability and fixed effects models of utility hardship for individuals Aged 60+ years old, SIPP 2014

Variables	Model 1			Model 2		
	β	SE	p-value	β	SE	p-value
Married, with children	0.0132	(0.00361)	0.000***	0.0156	(0.0128)	0.222
Single male household	0.0106	(0.00590)	0.072†	0.0223	(0.00506)	0.000***
Single female household	0.0196	(0.00680)	0.004***	0.0240	(0.00409)	0.000***
Multigenerational, with children	0.0397	(0.00531)	0.000***	0.0492	(0.00734)	0.000***
Multigenerational, no children	0.00782	(0.00398)	0.050**	0.0278	(0.00391)	0.000***
Other non-family	0.0187	(0.00467)	0.000***	0.0309	(0.00657)	0.000***
Hispanic	0.0322	(0.00650)	0.000***			
Black	0.0624	(0.00597)	0.000***			
Other	0.0409	(0.00943)	0.000***			
Male	−0.00358	(0.00300)	0.233			
Age	−0.00209	(0.000168)	0.000***	0.00597	(0.00253)	0.0183**
Non-native citizen	−0.0138	(0.00602)	0.0219**	0.0201	(0.0247)	0.416
Non-citizen	0.0207	(0.0142)	0.145			
Less high school	0.0217	(0.00509)	0.000***	−0.0144	(0.0251)	0.567
High school	0.00630	(0.00335)	0.0603†	−0.0111	(0.0231)	0.630
Some college	0.00738	(0.00342)	0.0308**	0.00488	(0.0230)	0.832
Fair/poor health	0.0408	(0.00315)	0.000***	0.0122	(0.00403)	0.00246***
Family income-to-poverty ratio	−0.00276	(0.000245)	0.000***	−0.000482	(0.000274)	0.0792†
Metropolitan area	0.00471	(0.00323)	0.144	0.00850	(0.0152)	0.577
Constant	0.171	(0.0126)	0.000***	−0.362	(0.176)	0.0396**
Observations	44,078			13,278		
R-squared	0.043			0.002		

Model (1) is the linear probability estimation and Model (2) provides results from fixed effects models. All models are for the 60+ year old population and include dummy variables for the SIPP wave. Utility hardship is defined by being unable to pay the full amount of gas, oil, or electricity bills. Married without children present is the reference living arrangement. Standard errors are clustered at the individual level and are provided in parentheses

† $p < 0.10$. ** $p < 0.05$. *** < 0.001

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Data Availability Data from the Survey of Income and Program Participation are publicly available (<https://www.census.gov/programs-surveys/sipp.html>).

Code Availability All State code is available from the authors upon request.

Declarations

Conflict of interest Not applicable.

Ethical Approval The Syracuse University Institutional Review Board has declared that this study is exempt from Human Subjects Review.

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