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Life events, social conditions and residential mobility among older adults

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Abstract

This study explores whether and how social conditions—ties to kin and friends as well as loneliness—are related to older adults' residential mobility, in general, and in combination with a late-life event, specifically. Drawing on panel data from the US Health and Retirement Study ($N = 9107$), logistic regression models examine whether older adult moves are triggered by life events (retirement, widowhood and health deterioration) and loneliness, and discouraged by the presence of nearby social ties (family and friends). The results indicate that becoming retired, becoming widowed, nearby family and nearby friends are indeed independently associated with moving. Loneliness is also associated with residential mobility, even when controlling for nearby family and friends. Social conditions do not, however, moderate the effect of late-life events on older adults' residential mobility. The only exception is the moderating role of loneliness on the effect of retirement: contrary to our expectation, the likelihood of postretirement moves declines with increasing levels of loneliness.

KEYWORDS
life events, loneliness, older adults, residential mobility, social ties

1 | INTRODUCTION AND LITERATURE REVIEW

Litwak and Longino's (1987) life span development framework of migration is the predominant framework for researchers studying residential mobility later in life. One important aspect of this framework is the linkage between three major later-life stages and specific types of moves: retirement and lifestyle-driven moves; facing disabilities (in combination with widowhood) and assistance moves; and facing chronic disabilities that require ongoing care and nursing home moves. While the literature has established that retirement, widowhood and health deterioration can lead to an increased likelihood of moving (Artamonova et al., 2020; Evandrou et al., 2010; Pope & Kang, 2010; Smits, 2010; Spring et al., 2023; Zilincikova et al., 2023), less is known about the social conditions that might inspire or discourage these moves. For example, recent research has emphasized the importance of the family and friends as a draw for individuals to remain in place or move elsewhere (see Gillespie, 2022; Mulder, 2018). It is yet unknown whether proximity to kin and good friends is a barrier to moving, or conversely, whether the absence of close-by family and friends is likely to motivate a residential relocation after a late-life event.

One unexplored mechanism behind mobility decisions, following a life event or otherwise, is individuals' feelings of loneliness—a discrepancy between their desired and achieved levels of social relationships (Perlman & Peplau, 1981). Loneliness, particularly in older adulthood (Mund et al., 2020), is a serious, distressing and pervasive experience (Charpentier & Kirouac, 2021), with between

20% and 30% of the older population in the United States experiencing some degree of mild to intense loneliness (Raymo & Wang, 2022). Loneliness is a leading cause of depression in older adulthood (Pinquart & Sorensen, 2001), with negative consequences including poor physical and mental health, more self-neglect, cognitive decline and higher morbidity (Fiske et al., 2009; Valtorta et al., 2016). However, we propose that one possible way individuals can sidestep later-life loneliness is by moving elsewhere.

This study draws on data from the U.S. Health and Retirement Study (HRS) to examine whether and how social conditions (i.e., the presence of nearby social ties as well as individuals' feelings of loneliness) are related to older adults' residential mobility, in general, and specifically in combination with a late-life event.

1.1 | Life events and residential mobility in older adulthood

While younger individuals often relocate for labour market reasons, to increase their human capital, older adults often move for other reasons. Litwak and Longino (1987) developed the prevailing theoretical framework for explaining older adult relocation. Their developmental migration model conceptualizes later-life migration into a series of three sequential stages. In the first stage, lifestyle-driven moves accompany retirement. People of retirement age are free to relocate far from their family and friends, as modern transport and information and communication technology make it feasible to stay in close contact over large distances while living in a place with attractive public amenities and opportunities for recreation and leisure (Haas & Serow, 1993). In the second stage, older adults develop disabilities that motivate them to move closer to children or other relatives (Zhang et al., 2013), particularly following widowhood (Zilincikova et al., 2023). Through these moves, they may receive help with household and care tasks that enable them to continue living independently and are therefore referred to as assistance moves. In the third stage, when older adults' health deteriorates further and family caregivers and others are no longer able to provide the necessary level of support, they are likely to move to institutionalized residential care (Duncombe et al., 2003; Puts et al., 2005). Building on the Litwak–Longino organizational paradigm and subsequent research on later-life migration, we propose the following general hypothesis about life events in older adulthood:

Hypothesis 1. Life events (retirement, widowhood and health deterioration) are associated with a higher likelihood of residential mobility.

1.2 | Social ties and residential mobility

Despite empirical evidence that later-life events trigger older adults to relocate, their propensity to change residence is still low compared to younger age groups (Gillespie, 2017). Whether older adults actually move depends on the circumstances that condition their desire and/or ability to do so (Bloem et al., 2008; Mulder & Hooimeijer, 1999). Individuals are not inclined to move until their living environment no longer matches their needs or aspirations (Wolpert, 1965). Social embeddedness also plays a decisive role in this respect: having family members and friends living close by increases individuals' likelihood of remaining in an area. The impact of nearby family and friends on individuals' local mobility patterns was recently explored in a single-city study focused on residential mobility within Los Angeles (Gillespie, 2022). The results indicated that individuals with nearby family and, to a lesser extent, friends were less likely to move away than those with no or few nearby social ties.

For young–old adults in particular (i.e., older individuals without any health problems or care needs), geographic proximity to family and friends is a means of structuring daily life, including visiting each other, engaging in activities together and looking after grandchildren (Dosman et al., 2006). For old–old adults, geographic proximity to family and friends is an important source of companionship and/or care (York Cornwell & Goldman, 2021). So far, research has focused mainly on the impact of geographic distance between older adults and their children on intergenerational support exchange and relocation of either the parent or the adult child. The closer older adults live to their grandchildren, the more frequently they interact (Arber & Timonen, 2013; Hurme et al., 2010). And the closer children live to parents, the more support they provide (Kalmijn & Dykstra, 2006; Knijn & Liefbroer, 2006; Mulder & van der Meer, 2009). Furthermore, older adults with nearby children change residence less often than those whose closest children live far away (Clark et al., 2017), while older people with grandchildren are more likely to move closer to their children than those without grandchildren (van Diepen & Mulder, 2009). Based on these arguments, we propose the following hypothesis for older adults:

Hypothesis 2. Nearby family and friends are associated with a lower likelihood of residential mobility.

1.3 | Loneliness and residential mobility

Very little is known about the role of loneliness in residential mobility. As with social ties (Matysiak, 2022), loneliness has most often been explored as an *outcome* of demographic processes, including immigration (Cela & Fokkema, 2017; King et al., 2014; Koelet & de Valk, 2016; De Witte & Van Regenmortel, 2022) and older adult transitions to adapted housing or special living arrangements (Bloem & van Tilburg, 2006). However, residential mobility might also be a strategy to alleviate loneliness even in a more localized context.

Loneliness is a multidimensional construct, commonly defined as qualitative and/or quantitative social deficiencies in intimate and/or peripheral relationships or, more broadly, as a discrepancy between an individual's desired and achieved levels of social relationships (Perlman & Peplau, 1981). At first glance, loneliness varies as a

function of having nearby family and friends (i.e., *social* loneliness). As mentioned above, nearby friends and family form an important social support system, potentially buffering feelings or effects of loneliness (Hsieh & Liu, 2021). More generally, research has shown that—particularly in older adulthood—high solidarity and frequent support exchange are associated with better overall well-being (Fingerman et al., 2013). However, relationships vary in purpose, quality/intensity (emotional closeness) and structure (composition). In other words, even when surrounded by family and friends, people can still feel lonely if their relationships are not as fulfilling and meaningful as they would like them to be or they experience a situation where the intimacy they wish for is not realized (i.e., *emotional* loneliness).

The coping literature identifies three approaches to attenuate loneliness: individuals can (i) improve the quantity or quality of their relationships; (ii) lower their standards by adjusting unrealistic social expectations; and (iii) handle loneliness with internalized processes (e.g., acceptance, justification or distraction) (Heylen, 2010; Lazarus & Folkman, 1984; Rook & Peplau, 1982). With regard to the first approach, geographic context might be a particularly strong facilitator of (re)constructing a robust social circle. Accordingly, a major component of this study explores whether individuals change their residence in response to loneliness. This leads to the following hypothesis for older adults:

Hypothesis 3. Higher levels of loneliness are associated with an increased likelihood of residential mobility.

1.4 | Life events and social conditions

Another objective of the current study is to tease out whether the social conditions—the presence of close-by social ties and level of loneliness—play a particular, moderating, role when someone experiences one of three late-life events. In Litwak and Longino's (1987) model, retirement, widowhood and health deterioration are seen as triggers to relocate. Looking for a better living environmental quality and more recreation and leisure amenities are the underlying motives in this model for recent retirees to move. It remains to be seen whether newly retired people actually make this move in the presence of favourable social conditions in their current place of residence. Spending more time with close-by family and friends can be a way to replace the loss of contact with co-workers; helping close-by family and friends (such as caring for grandchildren, assisting adult children, offering practical and emotional support to friends) might be a way to replace the social productivity lost in the work-to-retirement transition (Kahn et al., 2011).

Moving away from family and friends might lower the frequency and quality of contact with them, while building up a network of meaningful relationships in the new place of residence takes time (Brehm et al., 2004; Gieling et al., 2019), potentially increasing feelings of loneliness. In Litwak and Longino's (1987) model, receiving assistance and care is the driving force to relocate for those who become widowed or experience health deterioration. Yet, this will only be the case when access to (meaningful) familial and social support networks is lacking in the immediate vicinity. Thus, we further hypothesize a moderating role of social conditions on the relationship between late-life events and residential mobility:

Hypothesis 4. The expected positive association between life events and residential mobility is less likely when nearby family and friends are present and more likely with higher levels of loneliness.

2 | DATA AND METHOD

2.1 | U.S. HRS

These analyses are based on restricted-use panel data from the U.S. HRS. The HRS is a nationally representative data set of adults aged 50 and over, conducted by the Institute for Social Research at the University of Michigan. The data have been collected biennially since 1992 and are based on a multistage area probability sampling of U.S. households.

The data set contains multiple modules, including the main ('core') interview along with complementary modules that tap into more specialized topics. Response rates are relatively high for a panel study, with reinterview rates ranging from 69% to 92% (Sonnega et al., 2014). For a detailed description of the HRS protocol, including the research design and sampling strategy, see HRS (2017). The current sample draws on three waves of the HRS core data (2010–2014).

Psychosocial data are collected in a supplemental module (the Psychosocial and Lifestyle Questionnaire; PSQ), which supplements the in-person core interviews. Among other things, the supplement focuses on respondents' relationships with their kin and friends. The design of the PSQ is more complicated than the biennial core interviews. When the PSQ was first instituted in 2006, a random subsample of 50% of HRS respondents was selected for the supplemental module, with the expectation that data would be collected from this cohort every other wave (i.e., every 4 years). As such, panel data were collected from 'Group A' in 2006, 2010, 2014 and 2018. In 2008, data were collected from the remaining 50%, making them the second cohort ('Group B'), with additional panel data collected in alternating waves, 2012 and 2016.

The current study uses T1 data from Group A in 2010 or Group B in 2012. The outcome is whether or not a relocation to a new zip code took place between T1 (2010 or 2012) and T2, which is 2014 for both groups, as residential relocations are measured in every wave as part of the core interview. This obviously creates a staggered sample issue, whereby those in Group A had 2 additional years to observe a move. To address this in the best way possible, we include a control for respondent's cohort in the analyses. Moreover, in a separate section below (Section 3.1), we discuss a number of additional analyses we conducted to show that our results are robust to different data structures, measurements and analytic approaches.

The sample consists of noninstitutionalized older adults who completed the PSQ in 2010 (Cohort A) or 2012 (Cohort B) and

participated in the core interview in the 2014 Wave ($N = 9107$). All analyses include weights from the core data in 2014, the observation year for the dependent variable.

2.2 | Dependent variable

The T2 measurement for residential mobility between waves—the primary dependent variable for the analyses—is based on whether or not the respondent had a change in zip codes between 2010 and 2014 (Cohort A) or between 2012 and 2014 (Cohort B). There are obvious issues with pseudomigration using this measurement, but more precise distance measures were not available, even with the restricted-access data. However, we believe that moves need not cross incredibly long distances to remedy existing social conditions.

2.3 | Primary independent variables

2.3.1 | Life events

We include measures for the occurrence of three life events. The first is whether or not the respondent transitioned to full retirement between T1 and T2. The second is whether or not an individual became widowed between these observation periods. The third is whether or not the individual self-reported deterioration in their general health between the survey waves at T2.

2.3.2 | Nearby social ties and loneliness

Two dichotomous measures from the core data indicate whether or not the respondent reported having family or friends nearby. To explore nearby family, an item in the core survey asked, 'Besides the people living [here/there] with you, do you have any relatives in your neighbourhood?' To tap into nearby friends, the second question asked, 'Do you have any good friends living in your neighbourhood?'

Respondents' measure of loneliness is based on an 11-item scale derived from the 20-item Revised UCLA Loneliness Scale (Russell et al., 1980; Russell, 1996). The validated items were selected for the PSQ based on previously published factor loadings with older adults to enhance reliability (Hawkley et al., 2005). The questions ask respondents how much of the time they feel: (a) lacking in companionship; (b) left out; (c) isolated from others; (d) that they are 'in tune' with the people around them; (e) alone; (f) there are people they can talk to; (g) there are people they can turn to; (h) there are people who really understand them; (i) there is a group of people they feel close to; (j) they are part of a group of friends; and (k) they have a lot in common with the people around them. The response options for each item were: (i) often; (ii) some of the time; and (iii) hardly ever or never. To create an index of loneliness, items a, b, c and e were reverse-coded and the scores were averaged across all 11 items. Any scores with more than five missing items were set as missing values. The subsequent scale ranges from 1 to 3.

2.4 | Controls

Control variables include age and gender (female = 1). Racial/ethnic category was measured by the HRS and includes the following categories: White (reference group), Black, Hispanic and Other. Education identified whether the respondent's level of education was less than high school, high school or the equivalent, some college, college or graduate studies. The variable wealth provides the net value of the respondents' total wealth less their individual retirement account and divided by 10,000 to facilitate interpretation. Employment indicates whether the respondent is unemployed, employed full- or part-time (reference group) or fully retired.

Housing tenure marks whether the respondent owns—or is buying—their home (reference group), rents, lives with a relative/friend for free or some other arrangement; because only a few individuals had this latter classification ($n = 29$), we also included missing responses in this category. Marital status indicates whether the respondent is married or partnered (reference group), single, divorced/separated or widowed. Urbanicity is based on Census-defined classifications of population density, collapsed into three categories: urban/metropolitan (reference group), metro adjacent or moderately urban, and rural. A dichotomous variable indicates whether or not the respondent is classified as 'Cohort A' (data for the independent variables was collected in 2010) or 'Cohort B' (in 2012).

2.5 | Procedure

Table 1 presents descriptive statistics for the variables in the analyses. Bivariate analyses (group comparisons by moved or not) are presented in Table 2. Table 3, Model 3.1, provides a formal test of Hypotheses 1 and 2, that life events and nearby family and friends are associated with older adult residential mobility. Model 3.2 introduces the measure for loneliness to test Hypothesis 3. Model 3.3 presents the results of main effects and interaction terms between life events and social conditions to test Hypothesis 4. For all multivariate analyses, there was no severe multicollinearity in the models (average variance inflation factor = 1.1). Analysis of the correlation matrix (not shown) indicated that none of the observed relationships between the independent variables in the models were very strong. Intuitively, the strongest correlation (0.25) was between wealth and education. A number of additional sensitivity analyses are discussed below.

3 | RESULTS

Overall, nearly 7% of the sample relocated during the observation window, which is fairly consistent with annual rates of older adult residential mobility in the United States (Gillespie, 2017). Over

TABLE 1 Sample characteristics ($N = 9107$).

	M (SD) or %
Dependent variable	
Residential mobility$_{T1-T2}$	6.7
Life events	
Became retired$_{T1-T2}$	20.4
Became widowed$_{T1-T2}$	2.7
Health deterioration$_{T1-T2}$	22.3
Social conditions	
Nearby family	25.1
Nearby friends	64.5
Loneliness (0–3)	1.49 (0.4)
Individual and household characteristics	
Age	68.1 (8.9)
Female	58.1
Race/ethnicity	
White	85.9
Black	6.4
Hispanic/Latino	5.2
Other	2.5
Education	2.9 (1.3)
Wealth (10,000s)	44.1 (90.1)
Employment status	
Unemployed	6.7
Employed	38.4
Fully retired	54.9
Housing tenure	
Own	78.8
Rent	11.1
Rent-free (relative/friend)	2.5
Other/missing	7.5
Marital status	
Never married	4.6
Partnered	68.1
Divorced/separated	12.3
Widowed	15.0
Urbanicity	
Metropolitan	79.4
Moderate urban	8.8
Low urban/rural	11.8
Longitudinal sample	
Group A	54.1
Group B	45.9

Note: Weighted and unimputed data.

one-fifth of the sample became retired (20%) or experienced a health decline (22%) between T1 and T2. Those who transitioned to retirement were significantly more likely to move than those who did not ($p < 0.01$). No difference was found in the experience of health deterioration between movers and nonmovers. A much smaller percentage (2.7%) became widowed within the observation window; those who became widowed were slightly more likely to move than those who did not ($p < 0.10$). Nearby friends were reported by a larger share of the sample (65%) than nearby family (25%). Moreover, having nearby friends ($p < 0.001$) and nearby family ($p < 0.001$) were both associated with nonmobility compared with individuals with no such social ties. The baseline bivariate results also indicated that higher rates of loneliness were associated with mobility ($p < 0.001$).

The results in Model 3.1 (Table 3) provide some support for Hypothesis 1, which proposed that retirement, widowhood and health deterioration would be associated with a higher likelihood of moving. Retirement (odds ratio [OR] = 1.34, $p < 0.05$) and widowhood (OR = 1.85, $p < 0.05$) are both associated with a significantly higher probability of moving between waves. However, our results do not indicate that there is a significant relationship between the onset of health deterioration and residential mobility between waves. The results in Model 3.1 are also in line with Hypothesis 2—that nearby family and friends are associated with a lower likelihood of residential mobility among older adults. Those with nearby family (OR = 0.6, $p < 0.01$) and nearby friends (OR = 0.7, $p < 0.001$) are significantly less likely to relocate.

The results presented in Model 3.2 (Table 3) are in line with Hypothesis 3—that higher levels of loneliness are associated with an increased probability of residential mobility. Indeed, greater loneliness is associated with a significantly higher likelihood of moving between waves, regardless of the presence of nearby social ties (OR = 1.44, $p < 0.01$). Model 3.3 presents the results of interaction terms between life events and social conditions to test Hypothesis 4—that the expected positive association between life events and residential mobility is less likely when nearby family and friends are present and more likely with higher levels of loneliness. No support was found. Our results do not indicate that social conditions have a moderating role in the relationship between widowhood or health deterioration and residential mobility. The results do point to a moderating effect of loneliness on the relationship between retirement and mobility. However, this relationship is not in the expected direction. The results suggest that the likelihood of

TABLE 2 Bivariate comparisons ($N = 9107$).

	Nonmover ($n = 8515$)	Mover ($n = 592$)	Difference
Life events			
Became retired$_{T1-T2}$	20.0	26.1	**
Became widowed$_{T1-T2}$	2.6	4.0	†
Health deterioration$_{T1-T2}$	22.2	23.5	NS
Social conditions			
Nearby family	25.7	16.0	***
Nearby friends	65.4	51.2	***
Loneliness (0–3)	1.48 (0.4)	1.61 (0.5)	***
Individual and household characteristics			
Age	68.2 (8.9)	66.4 (8.9)	***
Female	58.2	57.3	NS
Race/ethnicity			NS
White	86.0	84.0	
Black	6.3	7.5	
Hispanic/Latino	5.3	4.6	
Other	2.4	3.9	
Education	2.9 (1.3)	3.0 (1.3)	NS
Wealth (10,000s)	44.8 (91.7)	33.8 (64.5)	*
Employment status			NS
Unemployed	6.6	8.3	
Employed	38.3	39.6	
Fully retired	55.1	52.1	
Housing tenure			***
Own	80.3	59.1	
Rent	10.0	28.2	
Rent-free (relative/friend)	2.3	6.0	
Other/missing	7.6	6.8	
Marital status			*
Never married	4.5	6.8	
Partnered	68.5	61.4	
Divorced/separated	12.0	16.9	
Widowed	15.0	15.0	
Urbanicity			**
Metropolitan	78.9	86.7	
Moderate urban	9.0	5.9	
Low urban/rural	12.1	7.5	
Longitudinal sample			NS
Group A	54.1	53.6	
Group B	45.9	46.4	

Note: Weighted and unimputed data.
Abbreviation: NS, not significant.
†$p < 0.1$.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

postretirement moves *decline* with increasing levels of loneliness. To illustrate this point, Figure 1 presents a graph of the predicted probabilities of moving among those who transitioned to retirement and those who did not across different degrees on the loneliness scale.

The results for control variables indicate that age is negatively associated with residential mobility in older adulthood (OR = 0.97, $p < 0.001$). Those with higher levels of education are more likely to move (OR = 1.13, $p < 0.01$). Renters (OR = 4.0, $p < 0.001$) and those who live in rent-free accommodations (OR = 4.06, $p < 0.001$) are significantly more likely to move than those who own their dwelling place. Compared with older adults residing in metropolitan areas, those from moderate urban (OR = 0.65, $p < 0.05$) or low urban/rural geographic areas (OR = 0.61, $p < 0.05$) are significantly less likely to move.

3.1 | Sensitivity and auxiliary analyses

In addition to our main analyses, we conducted a number of sensitivity checks related to the data structure and sample, measurement, framework and models to bolster the validity of our main findings.

3.1.1 | Data structure and sample

To check for group differences in the staggered subsample (i.e., between PSQ Groups A and B), we ran bivariate analyses for all variables in the model. All statistically significant differences were intuitive—only age and other age-dependent items, like transitioning to retirement and becoming widowed, differed significantly between Groups A and B.

Because of the staggered structure of the PSQ, we were unable to stack the data in long format by wave. However, we ran sensitivity analyses for other combinations of waves (e.g., 2008/2010 → 2012) and, reassuringly, the results were nearly identical each time. The results were also similar when analyses were run separately by individual cohorts (e.g., 2010 and 2012 separately to explore moves undertaken by 2014).

TABLE 3 Logistic regression model for life events, social conditions and migration ($N = 9107$).

	Model 3.1	Model 3.2	Model 3.3
Life events			
Became retired$_{T1-T2}$	1.34*	1.34*	4.27**
Became widowed$_{T1-T2}$	1.85*	1.79*	1.85
Health deterioration$_{T1-T2}$	1.03	0.99	0.65
Social conditions			
Nearby family	0.60**	0.61**	0.59*
Nearby friends	0.69***	0.73**	0.71*
Loneliness		1.44**	1.64**
Individual and household characteristics			
Age	0.97***	0.97***	0.97***
Female	0.88†	0.91	0.90
Race/ethnicity			
White (reference)			
Black	0.80	0.80	0.81
Hispanic/Latino	0.67	0.67	0.65
Other	1.34	1.33	1.33
Education	1.12*	1.13**	1.14**
Wealth (10,000s)	0.99	0.99	0.99
Employment status			
Unemployed	1.19	1.14	1.17
Employed (reference)			
Fully retired	1.20	1.16	1.15
Housing tenure			
Own (reference)			
Rent	4.11***	4.00***	4.10***
Rent-free (relative/friend)	4.13***	4.06***	4.12***
Other/missing	1.45	1.41	1.38
Marital status			
Never married	1.00	0.95	0.96
Partnered (reference)			
Divorced/separated	0.95	0.91	0.89
Widowed	1.17	1.12	1.12
Urbanicity			
Metropolitan (reference)			
Moderate urban	0.65*	0.65*	0.65*
Low urban/rural	0.62*	0.61*	0.61*
Longitudinal sample (Group B)	1.08	1.09	1.09
Interactions			
Became retired × nearby family			1.17
Became retired × nearby friends			1.08
Became retired × loneliness			0.45***
Became widowed × nearby family			1.43
Became widowed × nearby friends			1.61
Became widowed × loneliness			0.77
Health deterioration × nearby family			0.90
Health deterioration × nearby friends			0.97
Health deterioration × loneliness			1.32
Fit statistics			
AIC	4114.64	4108.93	4120.39
McFadden's adjusted R^2	0.061	0.062	0.059

Note: Odds ratios presented. Weighted data.
Abbreviation: AIC, Akaike information criterion.
†$p < 0.1$.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

In separate analyses, we included the subsample of individuals who transitioned into assisted living facilities between waves ($n = 223$). The results remained largely similar; however, the interaction between retirement and loneliness was not statistically significant in the final model. Since the HRS sampling weights do not include individuals in assisted living facilities, we removed this subpopulation from our main analyses.

3.1.2 | Measurement

Having no nearby children (within 10 miles) is also a significant predictor of residential mobility in models without the variable for nearby relatives (and vice versa). The reason both were not included in the analyses is that the two are not mutually exclusive. Based on the phrasing of the question, the measure for 'nearby relatives' includes children.

Using a crude measure for loneliness—whether or not the respondent felt lonely *within the past week*—resulted in a larger sample size because it is asked each wave as a part of the core data. The measure led to similarly significant results but we opted to use the validated scale for loneliness rather than the broad, time-specific measure.

3.1.3 | Framework

Since moving might also *increase* loneliness—especially moving away from nearby family and good friends, individuals might be less

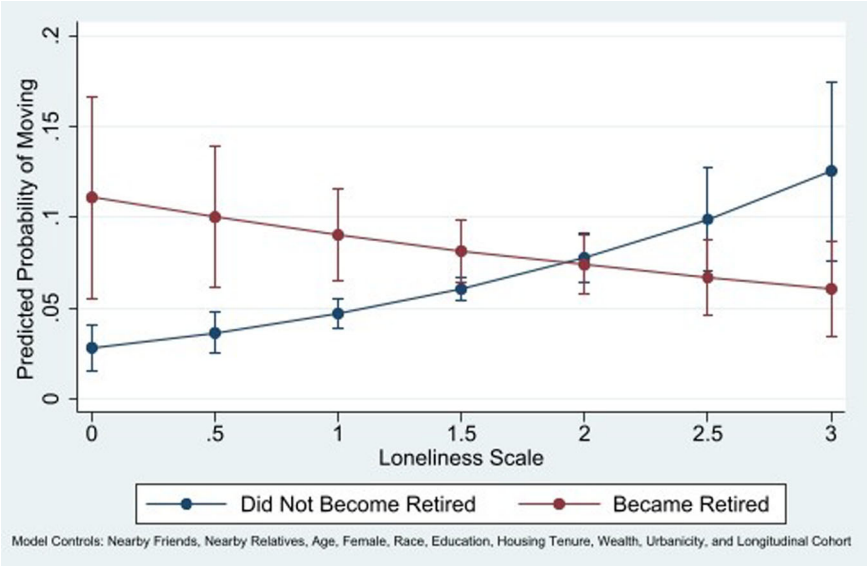

FIGURE 1 Predicted probability of moving by loneliness and retirement.

inclined to move when they have close-by social ties. An auxiliary analysis explored interactions between loneliness and nearby family and friends. However, we did not find any evidence that loneliness is associated with residential mobility vis-à-vis nearby social ties.

3.1.4 | Models

To tap into the quantity–quality distinction, we explored a variety of interactions between life events and respondents' total number of relatives and friends reported in the PSQ, as well as validated scales for contact frequency and (positive/negative) relationship quality. However, these other measures of social structure and solidarity were not about *nearby* relatives and friends per se, but *any* relatives and friends. None of the interactions were statistically significant.

Additional models included measures for baseline health and depression. However, these variables did not change the results substantially. To preserve a parsimonious model and avoid 'over-controlling', we did not retain these measures in the model. Additionally, because of the large number of interaction terms in the final model, we checked the interactions three at a time (i.e., nearby family, nearby friends and loneliness separately by each life event) as well as individually in the models. The results did not change substantially and so we have opted—for efficiency of presentation—to retain the full model with all interaction terms included.

4 | DISCUSSION AND CONCLUSION

Our primary objective was to examine whether and how (a) life events (i.e., retirement, widowhood, health deterioration) and (b) the presence of nearby social ties and individuals' feelings of loneliness are related to residential mobility in older adulthood. We also explored whether and how these social conditions moderate the relationship between life events and residential mobility.

First, our results provide some support for the tripartite developmental framework developed by Litwak and Longino (1987). We proposed that several life events commonly experienced in older adulthood (transitioning to retirement, becoming widowed and health deterioration) would be associated with individuals' propensity to move. Our findings are mostly consistent with previous research on the impact of life events on migration in older adulthood (e.g., Bloem et al., 2008; Evandrou et al., 2010). Indeed, our null findings for health deterioration and residential mobility were also consistent with other studies on the topic (e.g., Longino et al., 2008). More comprehensive measures of individuals' health—and changes therein—might better predict migration than individuals' self-reported general health and health deterioration. Moreover, migration in response to older adults' deteriorating health might instead be undertaken by family members, particularly their adult children, to provide care. Even more likely, severe declines in health might instead trigger a move into institutional living (Artamonova et al., 2021).

Second, our results demonstrate that older individuals who have family and friends living nearby are less likely to move. The idea that individuals' nonresident family can impact relocation decisions is rooted in the notion that social ties are an important type of 'location-specific capital', resources that are bound to a specific area (DaVanzo, 1981). Thus, nearby kin can serve as an attraction for individuals to remain in an area or a draw to move elsewhere (Artamonova et al., 2020; Mulder, 2018; Thomas & Dommermuth, 2020). Considerably less attention has been devoted to friends—also an important form of location-specific capital, often providing companionship and instrumental and social support. All in all, nearby social ties seem to help retain older adults in their communities. These results are consistent with recent quantitative and qualitative research on nearby social ties serving to deter residential mobility among younger sample populations (Gillespie, 2022; Thomassen, 2021; Thomassen et al., 2023).

Third, loneliness increases individuals' propensity to move away. Thus, as a metric for the *quality* of individuals' social relationships, these results suggest that individuals might leverage relocations in response to feelings of loneliness. These results add to our limited understanding of not just whether but *how* social relationships can impact older adults' relocation decisions. In particular, while previous studies have shown that (internal) migration can lead to loneliness, our results indicate that loneliness can also be a trigger to move.

We did not find support for our hypothesis that individuals experiencing late-life events would be more or less likely to move depending on their social conditions. While our moderation results were not borne out according to our hypotheses, several other explanations might be at play. Older adults experiencing these transitions might move for reasons other than loneliness or a lack of nearby social ties. For example, individuals who have recently become widowed often downsize their housing to adapt to the changes in household composition or to accommodate their new economic circumstances or space needs (Bonnet et al., 2010). Moreover, the emotional loneliness experienced with widowhood—missing one's partner—cannot be easily resolved through relocation (Guiaux, 2010). In the case of serious health deterioration, it might be necessary to move into an institution, which are not available everywhere. Individuals experiencing health declines might also be more likely to move closer to medical services or into a more accommodating dwelling (e.g., without stairs). Thus, consistent with Bloem et al.'s (2008) assertion, 'important life changes might serve as reasons for moving, but the actual move depends on other events and conditions' (p. 40).

Our findings that the transition to retirement is associated with a *lower* probability of relocation among individuals experiencing loneliness also run counter to our expectations. One explanation might be that, like all moves, retirement moves are undertaken for a variety of reasons and in a variety of ways. For example, 'snowbird' migrants relocate to areas with more retirement-friendly accommodations (e.g., Florida, California, Arizona). Individuals experiencing loneliness might simply be less inclined and/or less able than those with a vibrant and active lifestyle and good social skills to embark on these types of postretirement 'leisure-driven' moves.

Although these analyses help identify the ways social conditions in older adulthood frame individuals' constraints and opportunities for residential mobility, our study has several limitations. First, the staggered nature of the PSQ module created some data modelling complications, although numerous sensitivity analyses bolster the reliability of these findings. Second, the dichotomous items for nearby family and friends are not ideal—better measures for proximal family and friends, such as the number of nearby social ties or their exact distance, would be an improvement. These data do exist to some extent, in national population registers (e.g., in the Netherlands, Sweden, Norway and Denmark) that contain geolocations for family members. However, these data sources do not have information about loneliness, health or the presence/availability of friends.

Our findings also present several interesting avenues for future research. First, researchers might consider the quantity *and* quality of nearby family and friend relationships. For example, some older adults might move away from negative or ambivalent relationships with their social ties. Additionally, 'weak' versus 'strong' social ties tend to differ in purpose, function and importance (Granovetter, 1973). While the HRS PSQ supplements do contain some measures of relationship quality, they refer to social relationships *anywhere*, rather than specifically nearby ties.

Second, to the extent that sample size is not an issue, future research might also explore how the co-occurrence of multiple events impact older adults' propensity to relocate. Third, given the unprecedented rates of loneliness during the coronavirus disease 2019 pandemic and attendant lockdowns (Killgore et al., 2020), researchers are well-positioned to explore the way loneliness impacted migration—especially toward or into coresidence with family—at this time. Although we adopted the broadest conventional conceptualization of loneliness, future research might parse out the different dimensions of loneliness, including whether/how social and emotional loneliness differentially impact individuals' mobility decisions. In terms of policy, community development programmes could help facilitate the formation and maintenance of social ties within the community, particularly emphasizing policy interventions and strategies to target socially isolated older adults and those prone to loneliness.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the US HRS (https://hrsonline.isr.umich.edu/). Restrictions apply to the availability of these data, which were used under license for this study. Data are available from the author(s) with the permission of the US HRS.

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REFERENCES

Arber, S., & Timonen, V. (2013). A new look at grandparenting. In S. Arber & V. Timonen (Eds.), *Contemporary grandparenting: Changing family relationships in global contexts* (pp. 1–24). Policy Press Scholarship. https://doi.org/10.1332/policypress/97818474296681.003.0001

Artamonova, A., Brandén, M., Gillespie, B. J., & Mulder, C. H. (2021). Adult children's gender, number, and proximity and older parents' moves to institutions: Evidence from Sweden. *Ageing & Society*, *43*(2), 342–372. https://doi.org/10.1017/s0144686x21000556

Artamonova, A., Gillespie, B. J., & Brandén, M. (2020). Geographic mobility among older people and their adult children: The role of parents' health issues and family ties. *Population, Space and Place*, *26*(8), e2371. https://doi.org/10.1002/psp.2371

Bloem, B. A., & van Tilburg, T. G. (2006). Minder eenzaam na verhuizing? [Less lonely after moving?]. *Rooilijn Tijdschrift voor wetenschap en beleid in de ruimtelijke ordening*, *39*, 221–226.

Bloem, B., van Tilburg, T., & Thomése, F. (2008). Residential mobility in older Dutch adults: Influence of later life events. *International Journal of Ageing and Later Life*, *3*(1), 21–44. https://doi.org/10.3384/ijal.1652-8670.083121

Bonnet, C., Gobillon, L., & Laferrère, A. (2010). The effect of widowhood on housing and location choices. *Journal of Housing Economics*, *19*(2), 94–108. https://doi.org/10.1016/j.jhe.2010.04.003

Brehm, J. M., Eisenhauer, B. W., & Krannich, R. S. (2004). Dimensions of community attachment and their relationship to well-being in the amenity-rich rural west*. *Rural Sociology*, *69*(3), 405–429. https://doi.org/10.1526/0036011041730545

Cela, E., & Fokkema, T. (2017). Being lonely later in life: A qualitative study among Albanians and Moroccans in Italy. *Ageing & Society*, *37*(6), 1197–1226. https://doi.org/10.1017/S0144686X16000209

Charpentier, M., & Kirouac, L. (2021). Experiences of loneliness among older people living alone: A qualitative study in Quebec (Canada). *Ageing & Society*, *42*(12), 2832–2853. https://doi.org/10.1017/S0144686x21000349

Clark, W. A., Duque-Calvache, R., & Palomares-Linares, I. (2017). Place attachment and the decision to stay in the neighbourhood. *Population, Space and Place*, *23*(2), e2001. https://doi.org/10.1002/psp.2001

DaVanzo, J. (1981). Repeat migration, information costs, and location-specific capital. *Population and Environment*, *4*(1), 45–73. https://doi.org/10.1007/BF01362575

van Diepen, A. M. L., & Mulder, C. H. (2009). Distance to family members and relocations of older adults. *Journal of Housing and the Built Environment*, *24*(1), 31–46. https://doi.org/10.1007/s10901-008-9130-0

Dosman, D., Fast, J., Chapman, S. A., & Keating, N. (2006). Retirement and productive activity in later life. *Journal of Family and Economic Issues*, *27*, 401–419. https://doi.org/10.1007/s10834-006-9022-y

Duncombe, W., Robbins, M., & Wolf, D. A. (2003). Place characteristics and residential location choice among the retirement-age population. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *58*(4), S244–S252. https://doi.org/10.1093/geronb/58.4.s244

Evandrou, M., Falkingham, J., & Green, M. (2010). Migration in later life: Evidence from the British Household Panel Study. *Population Trends*, *141*, 77–94. https://doi.org/10.1057/pt.2010.22

Fingerman, K. L., Sechrist, J., & Birditt, K. (2013). Changing views on intergenerational ties. *Gerontology*, *59*(1), 64–70. https://doi.org/10.1159/000342211

Fiske, A., Wetherell, J. L., & Gatz, M. (2009). Depression in older adults. *Annual Review of Clinical Psychology*, *5*, 363–389. https://doi.org/10.1146/annurev.clinpsy.032408.153621

Gieling, J., Haartsen, T., & Vermeij, L. (2019). Village facilities and social place attachment in the rural Netherlands. *Rural Sociology*, *84*(1), 66–92. https://doi.org/10.1111/ruso.12213

Gillespie, B. J. (2017). Characteristics of the mobile population. In *Household mobility in America: Patterns, processes, and outcomes* (pp. 49–88). Palgrave.

Gillespie, B. J. (2022). Family and friends living nearby, neighborhood satisfaction, and residential mobility. *City & Community*, *21*(2), 140–155. https://doi.org/10.1177/15356841211060838

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, *78*(6), 1360–1380. https://www.jstor.org/stable/2776392

Guiaux, M. (2010). Social adjustment to widowhood: Changes in personal relationships and loneliness before and after partner loss. PhD dissertation, Vrije Universiteit Amsterdam.

Haas, W. H., & Serow, W. J. (1993). Amenity retirement migration process: A model and preliminary evidence. *The Gerontologist*, *33*(2), 212–220. https://doi.org/10.1093/geront/33.2.212

Hawkley, L. C., Browne, M. W., & Cacioppo, J. T. (2005). How can I connect with thee? Let me count the ways. *Psychological Science*, *16*(10), 798–804. https://doi.org/10.1111/j.1467-9280.2005.01617.x

Health and Retirement Study. (2017). Sample sizes and response rates. https://hrs.isr.umich.edu/sites/default/files/biblio/ResponseRates_2017.pdf

Heylen, L. (2010). The older, the lonelier? Risk factors for social loneliness in old age. *Ageing & Society*, *30*(7), 1177–1196. https://doi.org/10.1017/S0144686X10000292

Hsieh, N., & Liu, H. (2021). Social relationships and loneliness in late adulthood: Disparities by sexual orientation. *Journal of Marriage and Family*, *83*(1), 57–74. https://doi.org/10.1111/jomf.12681

Hurme, H., Westerback, S., & Quadrello, T. (2010). Traditional and new forms of contact between grandparents and grandchildren. *Journal of Intergenerational Relationships*, *8*(3), 264–280. https://doi.org/10.1080/15350770.2010.498739

Kahn, J. R., McGill, B. S., & Bianchi, S. M. (2011). Help to family and friends: Are there gender differences at older ages. *Journal of Marriage and Family*, *73*(1), 77–92. https://doi.org/10.1111/j.1741-3737.2010.00790.x

Kalmijn, M., & Dykstra, P. A. (2006). Differentials in face-to-face contact between parents and their grown-up children. In P. A. Dykstra, M. Kalmijn, T. Knijn, A. Komter, A. Liefbroer & C. H. Mulder (Eds.), *Family solidarity in the Netherlands* (pp. 63–88). Dutch University Press.

Killgore, W. D. S., Cloonan, S. A., Taylor, E. C., Lucas, D. A., & Dailey, N. S. (2020). Loneliness during the first half-year of COVID-19 lockdowns. *Psychiatry Research*, *294*, 113551. https://doi.org/10.1016/j.psychres.2020.113551

King, R., Cela, E., Fokkema, T., & Vullnetari, J. (2014). The migration and well-being of the zero generation: Transgenerational care, grandparenting and loneliness amongst Albanian older people. *Population, Space and Place*, *20*(8), 728–738. https://doi.org/10.1002/psp.1895

Knijn, T., & Liefbroer, A. (2006). More kin than kind: Instrumental support in families. In P. A. Dykstra, M. Kalmijn, T. Knijn, A. Komter, A. Liefbroer & C. H. Mulder (Eds.), *Family solidarity in the Netherlands* (pp. 89–106). Dutch University Press.

Koelet, S., & de Valk, H. A. (2016). Social networks and feelings of social loneliness after migration: The case of European migrants with a native partner in Belgium. *Ethnicities*, *16*(4), 610–630. https://doi.org/10.1177/1468796816638398

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer.

Litwak, E., & Longino, Jr. C. F. (1987). Migration patterns among the elderly: A developmental perspective. *The Gerontologist*, *27*(3), 266–272. https://doi.org/10.1093/geront/27.3.266

Longino, Jr., C. F., Bradley, D. E., Stoller, E. P., & Haas, W. H. (2008). Predictors of non-local moves among older adults: A prospective study. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *63*(1), S7–S14. https://doi.org/10.1093/geronb/63.1.s7

Matysiak, I. (2022). Social bonding strategies in the context of retirement migration to nonmetropolitan areas in the United States—Insights from Michigan and North Carolina. *Population, Space and Place*, *28*, e2594. https://doi.org/10.1002/psp.2594

Mulder, C. H. (2018). Putting family centre stage: Ties to nonresident family, internal migration, and immobility. *Demographic Research*, *39*(43), 1151–1180. https://doi.org/10.4054/DemRes.2018.39.43

Mulder, C. H., & Hooimeijer, P. (1999). Residential relocations in the life course. In L. J. G. Wissen & P. A. Dykstra (Eds.), *Population issues: An interdisciplinary focus* (pp. 159–178). Kluwer.

Mulder, C. H., & van der Meer, M. J. (2009). Geographical distances and support from family members. *Population, Space and Place*, *15*(4), 381–399. https://doi.org/10.1002/psp.557

Mund, M., Freuding, M. M., Möbius, K., Horn, N., & Neyer, F. J. (2020). The stability and change of loneliness across the lifespan: A meta-analysis of longitudinal studies. *Personality and Social Psychology Review*, *24*(1), 24–52. https://doi.org/10.1177/1088868319850738

Perlman, D., & Peplau, L. A. (1981). Toward a social psychology of loneliness. In R. Gilmour & S. Duck (Eds.), *Personal relationships 3: Personal relationships in disorder* (pp. 31–43). Academic Press.

Pinquart, M., & Sorensen, S. (2001). Influences on loneliness in older adults: A meta-analysis. *Basic and Applied Social Psychology*, *23*(4), 245–266. https://doi.org/10.1207/S15324834BASP2304_2

Pope, N. D., & Kang, B. (2010). Residential relocation in later life: A comparison of proactive and reactive moves. *Journal of Housing for the Elderly*, *24*(2), 193–207. https://doi.org/10.1080/02763891003757122

Puts, M. T. E., Lips, P., Ribbe, M. W., & Deeg, D. J. H. (2005). The effect of frailty on residential/nursing home admission in the Netherlands independent of chronic diseases and functional limitations. *European Journal of Ageing*, *2*(4), 264–274. https://doi.org/10.1007/s10433-005-0011-z

Raymo, J. M., & Wang, J. (2022). Loneliness at older ages in the United States: Lonely life expectancy and the role of loneliness in health disparities. *Demography*, *59*(3), 921–947. https://www.jstor.org/stable/48687249

Rook, K. S., & Peplau, L. A. (1982). Perspectives on helping the lonely. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research and therapy* (pp. 351–378). Wiley.

Russell, D., Peplau, L. A., & Cutrona, C. E. (1980). The revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, *39*(39), 472–480. https://doi.org/10.1037/0022-3514.39.3.472

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*(1), 20–40. https://doi.org/10.1207/s15327752jpa6601_2

Smits, A. (2010). Moving close to parents and adult children in the Netherlands: The influence of support needs. *Demographic Research*, *22*(31), 985–1014. https://doi.org/10.4054/DemRes.2010.22.31

Sonnega, A., Faul, J. D., Ofstedal, M. B., Langa, K. M., Phillips, J. W., & Weir, D. R. (2014). Cohort profile: The Health and Retirement Study (HRS). *International Journal of Epidemiology*, *43*(2), 576–585. https://doi.org/10.1093/ije/dyu067

Spring, A., Gillespie, B. J., & Mulder, C. H. (2023). Internal migration following adverse life events: Assessing the likelihood of return migration and migration towards family. Population, Space and Place.

Thomas, M. J., & Dommermuth, L. (2020). Internal migration and the role of intergenerational family ties and life events. *Journal of Marriage and Family*, *82*, 1461–1478. https://doi.org/10.1111/jomf.12678

Thomassen, J. A. K., Lundholm, E., & Malmberg, G. (2023). Who stays in their birthplace? The role of multigenerational local ties in young adults' staying behavior. *Population, Space and Place*. In this issue.

Thomassen, J. A. K. (2021). The roles of family and friends in the immobility decisions of university graduates staying in a peripheral urban area in the Netherlands. *Population, Space and Place*, *27*(2), e2392. https://doi.org/10.1002/psp.2392

Valtorta, N. K., Kanaan, M., Gilbody, S., Ronzi, S., & Hanratty, B. (2016). Loneliness and social isolation as risk factors for coronary heart disease and stroke: Systematic review and meta-analysis of longitudinal observational studies. *Heart*, *102*(13), 1009–1016. https://doi.org/10.1136/heartjnl-2015-308790

De Witte, J., & Van Regenmortel, T. (2022). The relationship between loneliness and migration among Belgian older adults. *Ageing International*, *47*, 672–694. https://doi.org/10.1007/s12126-021-09460-8

Wolpert, J. (1965). Behavioral aspects of the decision to migrate. *Papers in Regional Science*, *15*(1), 159–169. https://doi.org/10.1111/j.1435-5597.1965.tb01320.x

York Cornwell, E., & Goldman, A. W. (2021). Local ties in the social networks of older adults. *The Journals of Gerontology: Series B*, *76*(4), 790–800. https://doi.org/10.1093/geronb/gbaa033

Zhang, Y., Engelman, M., & Agree, E. M. (2013). Moving considerations: A longitudinal analysis of parent–child residential proximity for older Americans. *Research on Aging*, *35*(6), 663–687. https://doi.org/10.1177/0164027512457

Zilincikova, Z., Palomares-Linares, I., Artamonova, A., Branden, M., & Schnor, C. (2023). Residential choice following separation and widowhood in middle and later life. *Population, Space and Place*. In this issue.

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