Measurement of Late-Life Residential Relocation: Why Are Rates for Such a Manifest Event So Varied?

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Objectives. This methods article examines how characteristics of residential relocation (e.g., housing type) and research design decisions (e.g., level of analysis, geographic scale) influence reported rates for residential relocation among older adults.

Methods. Examination of key studies on late-life residential relocation (1992–2005) revealed a wide range of residential mobility rates and factors that contributed to this variation. These rates were rescaled to a common 5-year time period to allow for a degree of comparison across methodological approaches.

Results. We identified a wide range of rates for residential relocation in the literature (from 5% to more than 30% for a 5-year time period). Research design decisions accounted for much of the variation in these rates across studies; geographic scale was associated with the greatest amount of variation.

Discussion. We translate the findings into concrete suggestions for investigators. The article provides the background needed to identify the research design best suited to the end purpose of studies on residential relocation (e.g., inform economic policy, understand the individual’s aging experience, plan for long-term-care systems). These methodological issues are also relevant to other areas of investigation in which relocation influences the variables being studied (e.g., caregiving, urban planning, neighborhood development).

Key Words: Residential relocation—Measurement—Mobility.

Residential relocation appears to be a straightforward concept. Late-life moves across state lines, to another home within the community, or to an institutionalized setting seem to be a directly observable phenomenon—either an older adult moved from one location to another or he or she did not. However, upon closer examination the measurement of residential relocation is not as clear cut as one might think. The literature reports a multitude of operational definitions for residential relocation, and each approach to the measurement of this event has its own implications for resulting residential mobility rates. Some authors have published articles on selected measurement issues, such as definitions for retirement-based migration (e.g., Haas, Bradley, Longino, Stoller, & Serow, 2006), and others have published on methodological issues pertaining to measurement of residential relocation from a specific data source, such as the U.S. Census (e.g., Wolf & Longino, 2005).

Much of the research on residential relocation is conducted via secondary analysis with data from a variety of national data sets. Design decisions specific to each primary data set create parameters that dictate how investigators must operationalize this concept. Whether deciding to use a specific data set for secondary analysis, or developing original measures for primary analysis, researchers need to carefully consider how these parameters influence their capacity to accurately measure this phenomenon for their stated research purposes. The purpose of this article is to take a broad look at the operationalization of late-life residential relocation across primary and secondary data sets to raise awareness of its multiple dimensions and the subsequent challenges of measuring such events for research purposes.

Data on residential relocation are used by a wide variety of researchers across multiple fields: demography and population studies, geography, health policy and health services, and gerontology. Geographic mobility may also create attrition in longitudinal studies if respondents move between survey waves and researchers cannot locate them for follow-up. Within the field of gerontology, residential relocation data are relevant to research on retirement, living arrangements, access to informal support, housing, transitions and life course studies, and long-term care. Haas and colleagues (2006) demonstrated how the operationalization of retirement migration has implications for economic policy. In doing so, these authors specified how variations in age-based and retirement-based definitions generated different estimates of interstate migration within the framework of retroactively reported moves across state lines. It is the premise of the current article that characteristics of the move itself are also important methodologically. Choosing the operational definition of residential relocation that best fits the end use of study results is an important consideration in study design, and investigators who use this event as an independent or dependent variable need to understand the implications of using an aggregate- or individual-level definition. This article identifies move characteristics (e.g., geographic location, type of residence, age, mortality) that are commonly incorporated into operational definitions of residential relocation. These
features of the relocation can interact with research design decisions (e.g., cross-sectional or longitudinal design, level of analysis, length of time interval, geographic scale) to influence reported residential mobility rates among older adults. This article describes the relationships between move characteristics, research design decisions, and their potential impact on resulting residential mobility rates and provides suggestions for researchers investigating residential relocation and related areas of investigation.

Basis for Variation in Residential Mobility Rates

The literature reports a wide range of mobility rates for older adults that describe what proportion of the population moves within a given length of time. Table 1 illustrates the variation in residential mobility rates found in the literature, along with information on aspects of research design that contributed to these differences. We located articles published from 1992 to 2005 through PsycINFO and Web of Science searches on a variety of key words and authors, and through cited references in more current articles. Residential mobility rates in Table 1 came directly from the cited articles, or we calculated them from descriptive information provided. Often, this information was provided as background or in a description of the sample used to answer more complex research questions about residential relocation. Table 1 is divided into three sections, each of which focuses on a different geographic scale: (a) individual residence/any move, (b) census tract or zip code, and (c) state. This table also presents rescaled data from studies that measured residential relocation that occurred in 2- to 10-year time periods. For illustrative purposes, we rescaled the residential mobility rates to a common 5-year time period solely for methodological comparison across studies. For example, Rogerson, Burr, and Lin (1997) used a 5-year time period in their research, so in Table 1 the original and rescaled 5-year rates are the same at 25%. However, Robison and Moen’s (2000) original study design had a period of 2 years within data collection waves. We multiplied their original 9% mobility rate by 2.5 for an adjusted rate of 22.5%, which we then rounded up to 23% for a 5-year rescaled residential mobility rate in the table. Although this method of rescaling is useful for comparative purposes regarding research design, it requires an assumption of a constant mobility rate. This may not reflect actually mobility rates over a 5-year period, especially for certain subgroups (e.g., older adults with frail health, recent retirees, the newly married). The rescaled rates should not be reported as actual residential mobility statistics.

A glance down the right-hand column of Table 1 shows that rescaled rates from these studies range from 5% to more than 30% for older adults who moved within 5 years. Numerous research design issues and approaches to measurement play a part in the variability of residential mobility rates. This article considers cross-sectional and longitudinal design, household and individual level of analysis, length of time between data collection points, geographic scale, geographic location, housing type, age, and mortality. This section outlines these factors and notes how each influences residential mobility rates, using Table 1 as a reference point. We recognize that additional factors were not reviewed. Assessment of possible sample bias, attrition, response rates, and representation of low-income and minority populations was beyond the scope of this article.

Cross-Sectional Design

Cross-sectional studies are cost effective and rely on retrospective data to measure residential relocation. Disadvantages of cross-sectional studies are exemplified in an often-used data source, the U.S. Census, which asks a retrospective question regarding place of residence 5 years prior to the census date in comparison to the current place of residence. This type of question does not capture moves prior to the 5-year mark, multiple moves within the time period, moves away from and back to the current residence, moves followed by a death, or moves out of the country (DaVanzo, 1981; Hugo, 1987; Longino, 1995). Missing information about multiple moves underestimates reports of incidence, and missing information about away/return moves and pre-mortality moves understates both incidence and prevalence. Some of these move scenarios may be more common among older adults, including moves followed by death, or a short-term move and return migration (Hugo, 1987; Mirotznik & Kamp, 2000; Stoller & Longino, 2001; Wolinsky, Callahan, Fitzgerald, & Johnson, 1993).

Longitudinal Design

Longitudinal studies have the potential for addressing some of the disadvantages of cross-sectional design, yet these studies are time consuming and researchers must tackle issues such as attrition, greater administrative burden, and higher costs. Longitudinal designs that simply compare place of residence across waves possess the same disadvantages as retrospective cross-sectional studies (e.g., multiple moves, away/return moves); researchers may avoid this through attention to the wording of data collection measures. Longitudinal studies that trace specific residence information (i.e., zip code, street address) provide depth to the understanding of decision and migration processes (DaVanzo, 1981; Hays & Longino, 2002). Sandefur and Tuma (1987) pointed out that some researchers do not take full advantage of longitudinal strengths, as many data sources do not ask residential history (e.g., length of time at current residence, number of lifetime moves, or length of time living within the region of study). A life course approach is possible with event-history analysis; benefits include controlling for individual effects and understanding individual housing decisions and migration processes across time (Clapham, Means, & Munro, 1993; Clark, 1992).

Household Versus Individual Level of Analysis

Researchers may conduct residential relocation studies at either the household or individual level of analysis. Household level of analysis has been recommended for microlevel studies that examine within-group differences such as health and psychosocial factors of family members, proximity of adult children, living arrangements, and household characteristics (Lin, 1997). Lin noted that the often-used Public Use Microdata Samples from the U.S. Census contain data on all individuals within a household. Counting individuals in an analysis of these data confounds personal characteristics (e.g., income) and results in duplicate counts from the same household; engaging in household-level analysis or limiting individual-level Public Use Microdata Samples to a single gender helps resolve these
**Table 1. Late-Life Residential Mobility Rates From Key Studies (1992–2005)**

<table>
<thead>
<tr>
<th>Citation, Study Design, and Time Period</th>
<th>Sample and Move Characteristics</th>
<th>Original Mobility Rates</th>
<th>5-Year Mobility Rates (Rescaled)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geographic scale: Individual residence/any move</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lin (1997)</td>
<td>( N = 162,365 ) (FL, individual)</td>
<td>FL individual: 34%</td>
<td>FL individual: 34%</td>
</tr>
<tr>
<td></td>
<td>( N = 216,229 ) (FL, household)</td>
<td>FL household: 36%</td>
<td>FL household: 36%</td>
</tr>
<tr>
<td></td>
<td>( N = 167,339 ) (NY, individual)</td>
<td>NY individual: 17%</td>
<td>NY individual: 17%</td>
</tr>
<tr>
<td></td>
<td>( N = 250,692 ) (NY, household)</td>
<td>NY household: 19%</td>
<td>NY household: 19%</td>
</tr>
<tr>
<td>Rogerson et al. (1997)</td>
<td>( N = 1,285 )</td>
<td>National: 25%</td>
<td>National: 25%</td>
</tr>
<tr>
<td>Robison &amp; Moen (2000)</td>
<td>( N = 678 )</td>
<td>Upstate NY: 9%</td>
<td>Upstate NY: 23%</td>
</tr>
<tr>
<td>Bayer &amp; Harper (2000)</td>
<td>( N = 2,000 )</td>
<td>National: 5 years = 20%</td>
<td>National: 20%</td>
</tr>
<tr>
<td>Foley et al. (1992)</td>
<td>( N = 3,615 ) (IA counties)</td>
<td>Rural IA counties: 12%</td>
<td>Rural IA counties: 20%</td>
</tr>
<tr>
<td>DeJong et al. (1995)</td>
<td>( N = 5,813 )</td>
<td>National: 16%</td>
<td>National: 13%</td>
</tr>
<tr>
<td>Choi (1996)</td>
<td>( N = 4,060 )</td>
<td>National: 15%</td>
<td>National: 13%</td>
</tr>
<tr>
<td>Coward et al. (1996)</td>
<td>( N = 7,527 )</td>
<td>National: 15%</td>
<td>National: 13%</td>
</tr>
<tr>
<td>Sommers &amp; Rowell (1992)</td>
<td>( N = 2,950 )</td>
<td>National: 5%</td>
<td>National: 13%</td>
</tr>
<tr>
<td>Wolinsky et al. (1993)</td>
<td>( N = 3,646 )</td>
<td>Ages 75–84: 5%</td>
<td>Ages 75–84: 9%</td>
</tr>
</tbody>
</table>

*Table 1 continues*
issues. Burkhauser, Butrica, and Wasylenko (1995) specifically chose the individual as the unit of analysis for their longitudinal study on residential relocation among elder homeowners, because the composition of households (e.g., due to widowhood) changes over time and is not accounted for in household-based samples. A comparison study of migration rates in Florida and New York found that differences between individual and household rates were a consistent 2% across both states, with household moves rated slightly higher in both cases (Lin, 1997). The number of residents living within a household before and after relocation was a factor in the slightly higher mobility rate for household level of analysis.

Length of Time Interval

The length of the time interval between data collection points in longitudinal research influences results. Shorter intervals capture fewer movers and are more susceptible to cohort effects (i.e., economic conditions), although intervals as short as a month are necessary to capture cyclical moves that occur on an annual basis (McHugh, Hogan, & Happel, 1995). Longer intervals between waves compensate for some of these shortcomings, but only if the study design is structured to query multiple moves within waves (see the previous discussion on taking advantage of the strengths of longitudinal design). Table 1 includes research that spans time periods ranging from 2 to 10 years. As described previously, the residential mobility rates were rescaled to a consistent 5-year period to illustrate how design issues other than time period affect these rates.

Geographic Scale

Geographic scale refers to the geographic territory or political boundary that must be traversed to qualify as a residential relocation. Examples include individual residence, local census tract/zip code, or state, and Table 1 is divided into sections that correspond with these three geographic units of analysis. In general, studies using smaller geographic scales find higher residential mobility rates. This is obvious upon comparison of 5-year studies reporting 5% mobility rates for interstate moves in people aged 60+ (Cowper et al., 2000; Longino, 1995) and one reporting a 25% mobility rate with individual residence as the geographic unit (Rogerson et al., 1997). Cohort size, economic conditions, and their interactions
may vary across the geographic scale of studies, with greater effects in results for interstate migration than for smaller scale migration. Diverse subregions require studies at smaller levels to account for differences in local economic conditions; demographics; and the norms, values, and attitudes in targeted geographic areas (Myers, 1990; Pandit, 1997).

Choice of geographic scale is linked to the ultimate purpose of the study. Studies that use the state as the geographic scale (e.g., Burkhauser et al., 1995; Hays & Longino, 2002; Longino, 1995) are valuable for persons interested in urban planning, migration patterns, and economic policy. In contrast, studies that focus on moves from individual residences or any move (e.g., Bayer & Harper, 2000; DeJong, Wilmot, Angel, & Cornwell, 1995; Rogerson et al., 1997) are useful to persons who want to understand the aging experience or design social services for older adults.

Geographic Location

Different states and regions within the United States have varying residential mobility rates. Some studies have compared rates across localities, with Florida and rural areas having higher residential mobility rates than other parts of the country, or in comparison to national rates (Foley et al., 1992; Hays & Longino, 2002; Lin, 1997).

Housing Type

An array of residential options is available to older adults, and some housing types specifically target older populations; these range from alternatives within continuing care retirement facilities to housing co-ops or congregate living. Sampling frames may exclude persons in institutionalized settings (e.g., nursing homes), and assisted living or other housing alternatives may (or may not) fall into this category. When samples include moves to institutionalized settings, the distinction between permanent and temporary stays becomes important. Studies often do not include moves within a residential setting (e.g., continuing care retirement community, assisted living, nursing home; Altus & Mathews, 2002; Hirth, Banaszak-Holl, & McCarthy, 2000; Nagelkerk & Kirk, 1990). Although the focus of this article is actual change in residence, it is important to acknowledge the related issue of changes in living arrangements that do not result in a physical relocation of the older adult (see Choi, 1999; Hays, 2002; Hays & George, 2002; Rogerson et al., 1997; Wilmot, 1998).

Age

Data in Table 1 show higher residential mobility rates for adults in their 50s and 60s than for those aged 70 and older. Of the studies listed under the geographic scale of individual residence in Table 1, the first three targeted older adults aged 50+ or 60+, whereas the last six targeted older adults aged 70+ or 75+; resulting mobility rates are lower for the studies with older samples. It is unknown how much of this difference is due to life events such as retirement, the exclusion of institutionalized populations in some studies, or the inability to capture alternative housing options that may be used by the old-old. For example, the higher rates for persons aged 85+ in the Foley and colleagues (1992) study were for moves from community-based settings to nursing homes. Some authors recommend delineating data by 1- to 5-year increments from age 65 through age 100 (Rogers, 1992), whereas others recommend targeting older adults who have experienced certain life events (e.g., retirement; Haas et al., 2006).

Mortality

Residential moves have been associated with increased mortality (Foley et al., 1992; Worobey & Angel, 1990). However, researchers have yet to adequately address the ramifications of this relationship in residential relocation research, as retrospective and self-report data do not capture this phenomenon. Only two studies in Table 1 collected post-mortality data in regard to residential relocation, and both focused on moves to nursing homes only (Coward, Netzer, & Mullens, 1996; Taylor, Osterman, Acuff, & Ostbye, 2005).

As Table 1 and the preceding discussion attest, research design decisions and data set characteristics such as cross-sectional versus longitudinal design; level of analysis; time period; geographic scale; housing type; and residential relocation characteristics such as geographic location, age, and mortality each influence residential mobility rates. The following section outlines suggestions for researchers who study residential relocation or whose fields of interest contain key variables that are affected by residential moves (e.g., neighborhood or built environments, informal support, family relationships).

Suggestions for Researchers

Researchers who are interested in developing more focused methods for measuring residential relocation in research on migration patterns, long-term-care planning, informal support systems, neighborhood environments, and related areas should consider the following steps.

1. Become familiar with the effects of research design decisions on the incidence and prevalence of residential relocation.
2. Consider the purpose of the study and recognize the fit between design factors (e.g., state vs individual residence, geographic scale) and end use of the results (e.g., informing economic policy vs understanding the role of residential relocation as part of the aging experience).
3. Specify the types of moves that are and are not captured by data sets and sampling frames.
4. Precisely define type of housing, geographic scale, and other operational definitions.
5. Do not assume that all adults aged 65 and older have similar residential relocation experiences. Create multiple age categories to represent older adults. At a minimum, account for retirement status if grouping young-old and old-old adults together. (See Haas et al., 2006, for a detailed illustration of age and retirement issues in residential relocation research.)
6. Include moves to specified institutionalized settings, and describe if and how permanent moves are distinguished from temporary ones. If moves to institutionalized settings are not included, describe exactly the types of moves that were dropped from the study.
7. Control for life events such as retirement or change in marital status (both widowhood and a new marriage). Consider proxy reports in cases of mortality or severe cognitive decline.
8. Include event-history analysis or data related to residential history in longitudinal designs, and use pre-move in addition to post-move data (Clapham et al., 1993; Clark, 1992; Sandefur & Tuma, 1987).

9. Consider multimethod research in which longitudinal and cross-sectional methods complement each other to gain a full understanding of processes and outcomes associated with residential relocation; data from multiwave panel interviews may capitalize on the strengths of each method (Clark, 1992; McKendrick, 1999; Pandit, 1997; Sandefur & Tuma, 1987).

10. Give voice to the older adults who moved and delineate complex decision processes or multiple moves that occurred before the final transition through the use of qualitative follow-up to a quantitative study (e.g., Nakashima, Chapin, MacMillan, & Zimmerman, 2004).

CONCLUSION

The literature on residential relocation reports an astonishingly wide range of residential mobility rates. Upon closer examination of these studies, it becomes clear that the range of rates is influenced by characteristics of the move and research design decisions. The methods used to measure residential relocation complement the ultimate goal and end use of study results; thus, the variation in reported residential mobility rates may seem inconsistent but is the byproduct of necessary design decisions. Overall, the primary factor that seems to account for the variation in mobility rates across the studies in Table 1 is the geographic unit used to operationalize a residential move. Typically, residential mobility rates are greater across studies using smaller geographic scales. Geographic location of the study population also affects mobility rates, with some states (e.g., Florida) and rural areas seemingly to have higher mobility rates among older adults. It appears that residential mobility rates among adults aged 70 and older are not as high as those among young-old age groups, although institutionalization may be a confounding factor in these comparisons.

In spite of the wide range of residential mobility rates reported in the literature, it is generally accepted that people aged 65 and older do not move as often as other age groups, and there is some evidence that residential mobility rates in those aged 65 and older are declining slightly, at least in civilian, noninstitutionalized populations (Wolf & Longino, 2005). However, for gerontologists and others interested in older populations, residential relocation is a significant life event that occurs among a substantial proportion of this age group. Residential relocation research is useful for understanding the aging experience generally and for purposes of economic policy, urban planning, and social services project design, specifically. This information is informative to survey researchers and investigators in fields in which residential relocation is associated with attrition and key variables of interest (e.g., caregiving, whereby a change in residence can affect access to resources and barriers to informal support systems). Awareness of issues in the measurement of residential relocation is necessary to correctly interpret the literature; develop rigorous research designs; place research results within the broader research context; and apply findings to develop policy, housing options, and services to improve the quality of life for older adults.

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J. F. Sergeant planned the study, conducted the data review and synthesis of operational definitions, conceptualized the methodological issues, and was the primary writer. D. J. Ekerdt provided guidance throughout, revised the manuscript, and suggested the rescaling of original data to common 5-year intervals. R. Chapin provided guidance throughout, revised the manuscript, and suggested the inclusion of moves to institutionalized settings.

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REFERENCES


