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Choosing Among Residential Options: Results of a Vignette Experiment

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Abstract

Older people who experience declining health are often faced with difficult decisions about possible residential relocation. The research aim was to determine how five distinct dimensions—functional status, features of current housing, social networks, features of retirement communities, and financial considerations—affect decisions to relocate to a retirement community. A vignette experiment with a factorial design was conducted involving both older people and adult children who were concerned with an aging parent. Use of the Internet for administration of the experiment made it possible to deliver information to research participants through video clips. Research participants were influenced by each of the dimensions; however, functional status of the vignette persons had the greatest impact, and financial considerations the least. Adult children were more likely to recommend moves

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than were older people. The research is suggestive of the potential for use of vignette experiments for a fuller understanding of relocation decisions.

Keywords

residential relocation among older adults, retirement communities, stated-choice methods, fractional factorial survey methods, video-enhanced Internet-based survey administration

Introduction

Among decisions that older people have to make, those involving potential residential relocation are among the most important and difficult. Because of both attraction to their current residence and negative aspects of moving, older people usually have a strong preference to remain in place. Nevertheless, over time, because of changes in themselves and their environments, older people often experience powerful reasons to relocate. The issues involved in making relocation choices are complex. The decision process often involves both older people and adult children. In this article, we address questions about the relative extent to which five dimensions—(1) functional status, (2) social network characteristics, (3) mobility barriers in current housing, (4) features of retirement communities, and (5) implications of relocation for personal finances—influence decisions to move to retirement communities. We examine these questions separately for mature adults for whom a retirement community is an option and adult children who are concerned about their aging parents.

Background

Most older people in the United States are homeowners who value residential stability. According to the 2000 U.S. census, home ownership rates among householders ages 65 to 74 and 75 to 84 were 81% and 77%, respectively (Woodward and Damon 2000). Particularly among older people there is a tendency to link home with quality of life (Gitlin 2003). Residence is important for both practical and symbolic reasons (Krout and Wethington 2003; Rowles and Ravdal 2002). For practical reasons, housing is important as a source of shelter, a locus for basic daily living activities, and a primary setting for face-to-face interaction among family members. Housing location is important for access to community resources. Because it is so central to many major life events, housing also is important for meaning and memory. For

older people, the physical home represents autonomy and independence, both of which are perceived to be at risk by a move to service-supported housing (Gitlin 2003; Wiles 2005). The overwhelming majority of older people express a desire to stay in their current homes (Bayer and Harper 2000; Leeson 2006).

The preference for older people to "age in place" is a reflection of both attachment to current housing and aversion to negative aspects of relocation. Moves tend to be challenging for older people because they require giving up a familiar physical setting, disposing of some valued possessions (especially an issue if the move involves downsizing), paying for the move, and learning to live in a new setting. In many cases, moves are also challenging because they involve departure from a familiar and valued community and separation from local friends.

In spite of their preference to remain in place and the challenges associated with moving, some residential relocation does take place among older people. Data from the 2000 U.S. census provides an indication of the extent of housing relocation in this population (He and Schacther 2003). Among persons age 75 and older, 24.5% migrated either across town or to more distant locations between 1995 and 2000. Among persons age 85 and older, 32.3% made local or long-distance moves.

Many older people experience powerful reasons to move. If they are living in the residence in which they raised their children, older people may have more space than is needed. The death of a spouse may make a residence more difficult to maintain. Beyond age 65, individuals are increasingly likely to be unmarried and to live alone (Hays 2002), and over 50% of community-residing people age 75 and older live alone (Bayer and Harper 2000). The combination of age-related functional impairments and challenging features of a residential environment may create a tension that environmental gerontologists have named "environmental press" (Lawton 1990; Nahemow 2000). Older people often live in older homes, meaning the construction is older and may not be adequately equipped to facilitate coping with disability (Golant 2003; Pynoos, Sabata, and Choi 2005). Loss of social supports such as through the death of a spouse and moves of adult children to more distant locations, costs of home maintenance, rising property taxes, and driving cessation may also provide reasons for older people to consider relocation.

Older people experiencing environmental press may have reached their limits of what can be accomplished by trying various coping strategies to remain in place. Such strategies include the reconfiguration of living spaces and use of home modifications, assistive devices, and in-home services. While these strategies may have been helpful, their cumulative impact may

have been insufficient to provide satisfactory solutions to daily living needs. A decision to seek a residential alternative may also be made without full consideration of options that would make it possible to remain in place.

Older people may have multiple residential options. One set of options involves housing units that do not include services. Each housing unit that is considered has multiple features that a potential buyer or renter might want to consider. Another set of options involves service-supported housing such as assisted living. Housing location is another important dimension. Older people may prefer to remain close to their former residences, may want to be closer to community resources, or seek proximity to an adult child. Social networks are a consideration in relocation decisions. Some prefer to remain where they are or remain close to their current locations because they want to retain their strong social networks. Others consider moving because their local social networks have eroded, and they may better be able to retain or rebuild their social networks by moving elsewhere. Cost is often an important consideration. Older people may not fully understand all of the costs associated with their current residences. In considering new residences, they have reason to identify all of the major costs involved and to consider their ability to pay.

Older people do not make residential decisions in isolation. In fact, consideration of residential options is often initiated by adult children (Gottlieb, Stoeckel, and Caro 2009). Concerned about the safety of a parent who is living alone, an adult child may recommend that the parent move to another setting in which there is surveillance and support. Adult children may be particularly concerned about the safety of a parent when no informal sources of support are living in close proximity to the parent. In many of these situations, older people resist the moves recommended by their adult children.

Research Objectives

The aim of this article is to contribute to an understanding of the basis upon which older people and their adult children make decisions about residential options. More specifically, how do the following variables—functional status, social network characteristics, mobility barriers in current housing, features of retirement communities, and financial implications of relocation—affect receptivity to move to a retirement community? In this complex decision, to what extent are the dimensions weighted? Are there differences between older people and adult children in the ways in which they weigh the issues?

Method

We report the results of a vignette (or stated-choice) experiment that examines these questions. When used in research, vignettes are stories that represent hypothetical situations to elicit preferences, judgments, or anticipated behavior (Louviere, Hensher, and Swait 2000). Research participants are asked to make judgments about people described in vignettes. The premise is that the judgments made about vignette persons can provide insights about the basis on which people who are similar to research participants will act when faced with similar conditions. A further premise is that complex decisions are often made on the basis of holistic judgments rather than a rational calculus based on aggregation of parts. People often find themselves in situations that require quick decisions. They are unlikely to be aware of how each component of possible choices factors into their decision making.

Vignette or stated-choice methods are widely accepted in some fields such as transportation economics and environmental economics (Hensher 1997) and research on professional ethics (Taylor 2006). Among sociologists, vignettes have been used to study social norms. Peter Rossi was a notable advocate for the use of vignette methods to study social norms (P. Rossi and Nock 1982). P. Rossi argued that social norms are abstract principles that people tend to find difficult to articulate. He advocated use of carefully constructed vignettes describing concrete situations as a means of measuring the normative underpinnings of behavior. A study reported by Finch and Mason (1990) illustrates how vignettes can be used effectively to study social norms. The focus of that study was on the obligations of former in-laws after divorce and remarriage. A. Rossi and P. Rossi (1990) also used vignettes to study intergenerational obligations.

The use of stated-choice methods is limited in some fields because of skepticism of researchers regarding the validity of studies of hypothetical behavior as predictors of actual behavior. A limited number of studies have systematically examined the extent to which the hypothetical behavior reported in vignette studies compares to actual behavior. The findings tend be supportive of the validity of the data generated through vignette experiments. Telser and Zweifel (2007), for example, report on a stated-choice experiment concerned with the willingness of older people to wear a hip protector to guard against the risk of hip fracture. Participants in the study were asked to make recommendations for hypothetical people described in vignettes. The study participants were also to consider wearing a hip protector themselves. The researchers found that results of the stated-choice experiment compared favorably to actual willingness of the same respondents to wear a hip protector.

Peabody et al. (2000) report on a study in which they compared judgment of clinical vignettes and record reviews with structured reports made by standardized patients, that is, trained actors who presented themselves unannounced as patients at physicians' clinics (the gold standard). Ratings of clinical vignettes compared more favorably to the "gold standard" than did record reviews. The authors concluded that clinical vignettes provided a valid basis for measuring the quality of health care in an outpatient setting. Similarly, Peabody et al. (2004) found that vignettes provided a valid basis for cross-national comparisons of the quality of care provided by physicians on the basis of a study of physicians in the United States and Macedonia. In that study, physician responses to vignette patients were compared to treatment norms that had been established previously on standard patients. On the other hand, a study reported by Eifler (2007) provided mixed evidence regarding the validity of vignette studies in providing point estimates of rates of actual behavior. Eifler (2007) studied three forms of mildly deviant behavior: responses of cyclists and pedestrians to traffic lights and responses by pedestrians when encountering a lost letter on the pavement. Through observational research, Eifler (2007) established actual rates of behavior in these situations. In the case of cyclist and pedestrian responses to traffic signals, vignette responses were similar to actual behavior. However, actual and hypothetical responses were very different in the situation involving a lost letter. Eifler's (2007) findings suggest that vignette studies are more likely to yield accurate point estimates of actual behavior in the case of situations with which respondents are familiar than with situations respondents less frequently encounter.

Cavanaugh and Fritzsche (1985) have made a useful distinction between two types of vignette designs: constant variable value vignette (CVVV) and contrastive vignette technique (CVT). In CVVV designs, the same set of vignettes is administered to each respondent and the analysis seeks to determine the effect of the vignette as a whole. In CVT designs, the information within vignettes is systematically varied so that the effect of particular elements within vignettes can be determined. The major advantage of CVVV designs is that investigators can craft a vignette that precisely reflects the issues that they want to address. The major disadvantage of CVVV designs is that investigators are unable to determine how specific elements within vignettes affect responses. While CVT designs address the limitations of CVVV designs, CVT studies must be carefully designed to avoid vignettes with a set of internally incompatible components.

Professional communication about vignette methods is hampered by differences in terminology used in various fields. In market research, for example, the term *conjoint analysis* is used for what is described here as a CVT

vignette design (Orme 2005). In economics, the term *contingent evaluation method* is sometimes used to describe a form of CVT vignette design (Mitchell and Carson 1989). Peter Rossi (P. Rossi and Nock 1982) encouraged sociologists to use a form of CVT vignette design he called the fractional factorial survey. More recently, some authors have adopted the term *stated-choice methods* in hopes of establishing a common vocabulary that will be universally embraced by researchers who employ these methods (Louviere et al. 2000).

In this study, we employed a fractional factorial survey design (P. Rossi and Anderson 1982). The method combines elements of a factorial experimental design and survey methods. A vignette scenario is created with a set of dimensions and a set of levels within each dimension. (Dimensions are the equivalent of variables, and levels are the equivalent of specific values that are specified within each variable.) P. Rossi and Anderson (1982) used the term *factorial object universe* to describe the product of all of the possible combinations of levels. Specific vignettes are created by drawing a level randomly from each of the dimensions in the scenario. As a result of this method of generating vignettes, an independent set of vignettes is administered to each respondent. The characteristics of the vignette structure are recorded and linked to respondent choices. In a fractional factorial survey, each respondent judges only a small fraction of all vignettes that are theoretically possible. The method permits the study of the effects of both vignette structure and respondent characteristics on choices.

In the research reported here, the Internet was used to deliver information including vignette content to research participants through a combination of text, photographs, video clips, and audio clips. A demonstration of the research protocol is available on at http://128.32.75.8/vignettedemo/.

The technical features of the methods used in this study are described elsewhere (Caro et al. forthcoming). Use of video and audio clips to deliver vignette content provides investigators a number of distinct advantages. First, it provides a means of engaging research participants more fully than is possible with written information alone. Second, a video format can be helpful in assisting the participant in identifying with vignette persons. Third, video can also be helpful in addressing some of the challenges identified by Wason, Polonsky, and Hyman (2002) in designing vignette content. These challenges include making the vignettes believable, making the manipulated variables obvious, and at the same time guarding against framing effects (artificially drawing exaggerated attention to variables because of the manner in which information is presented in a survey). Use of video to deliver information provides investigators with a way to achieve a good balance between making

the manipulated variables clear to research participants and minimizing the risks of undesired framing effects. Videos have previously been used successfully in delivering vignette content with sensitivity to issues of framing effects. For example, Arber et al. (2006) studied primary care doctors who viewed a video vignette of a scripted consultation where the patient presented standardized symptoms of coronary heart disease. Videos were identical apart from varying patients' gender, age (55 vs. 75), class, and race. In that experiment, information about the characteristics of vignette persons was provided entirely by information embedded in the videos.

In the research reported here, we included five substantive dimensions whose importance is well established in the literature on relocation decisions of older people. The importance of these variables was confirmed by a qualitative preliminary study conducted by the investigators (Gottlieb et al. 2009). For the substantive dimensions, we specified between two and four levels:

functional status (three levels)
social network strength (three levels)
current housing characteristics (two levels)
retirement community quality (two levels)
financial implications (four levels).

The vignette structure is shown in Table 1. (We limited the number of levels specified to keep the scope of the experiment manageable.) We also varied the survey environment (not related to the vignette persons) in two ways. First, prior to starting the vignettes, respondents received an introduction to the benefits of retirement communities by either a physician or a nonphysician. Second, the sequencing of vignette dimensions was varied in a manner described in the following.

To establish a substantive context for the research, research participants watched and listened to a video clip in which a mature man spoke about the merits for older people of both staying in their homes and moving to retirement communities. The introduction was carefully worded to identify important advantages of both options. In one version, the man introduced himself as a doctor. In the other version, the man introduced himself only by his first name. Although the introduction was balanced, we wanted to see whether the identity of the host would have an influence on respondents' judgments. In the distinction that we made between substantive and incidental variables, we classified the identity of the host as an incidental variable.

Each respondent was asked to rate four vignettes. These vignettes began with a video clip of a different woman (Alice, age 75; Jean, age 76; Dorothea, age 77; and Lois, age 75). Each of the women provided similar information;

Table 1. Substantive Vignette Dimensions, Levels, and Interactive Options

Dimensions	Levels	Interactive options
Functional status	A. A visiting nurse has assessed name's physical and functional abilities. Name has no difficulty in climbing a flight of stairs. She can drive her car safely under any normal road and weather conditions. She does not have trouble doing light housework. B. A visiting nurse has assessed name's physical and functional abilities. Name is able to climb a flight of stairs but must use the handrail. She can drive her car safely but only within town and during daytime hours. She has some trouble doing light housework by herself. C. A visiting nurse has assessed name's physical and functional abilities. Name has difficulty in climbing one flight of stairs. She is not able to drive. She cannot do light housework by herself.	A. Recommendation of a nurse
Social network	A. Name has many good friends who live in her neighborhood. B. Name knows only a few people in the neighborhood; most of her friends have died or moved away. C. Name's best friend lives in the retirement community that she is considering.	
Current housing	A. Name lives in a house that has many features that make it safe and attractive for an older person. B. Name lives in a house with features that make it challenging for an older person.	A. Video clips with features of safe and "elder-friendly"/"challenging houses." B. Lists of features of safe and elder-friendly/challenging houses. C. Pictures of vignette subject's house.

(continued)

Table 1. (continued)

Dimensions	Levels	Interactive options
Retirement community	A. Name is considering moving into a luxury retirement community in her area. B. Name is considering a move to a popular retirement community.	A. Video clips with features of luxury and popular retirement communities. B. Lists of features of luxury and popular retirement communities. C. Pictures of the retirement community that vignette subject is considering.
Financial considerations	A. Name's financial planner has determined that her monthly spending money would increase by $194 if she moves to the retirement community. B. Name's financial planner has determined that her monthly spending money would increase by $85 if she moves to the retirement community. C. Name's financial planner has determined that her monthly spending money would decrease by $80 if she moves to the retirement community. D. Name's financial planner has determined that her monthly spending money would decrease by $175 if she moves to the retirement community.	A. Table with financial details B. Recommendation of a financial planner

that is, each was a widow, attracted to remaining in her home, experiencing health problems, and considering moving to a retirement community or assisted living facility. However, the women were different in their appearances and presentation. The settings in which the women were filmed also differed. We wanted respondents to be able to identify with the vignette persons.

Because of the possibility that respondents would identify with the vignette persons in different ways, each vignette person became an incidental variable

in the analysis. Likewise, the sequence of vignettes that a given respondent was asked to evaluate became an incidental variable. Considering only the substantive variables (functional status, social network, current housing, retirement community characteristics, and financial considerations), the factorial object universe (the total number of possible combinations of levels in dimensions) was 144. With the addition of the supplementary dimensions, the factorial object universe was 1,152.

In addition to animating the vignette person, we provided interactive options on four of the five dimensions. On the functional status dimension, research participants could request the recommendation of a visiting nurse. On the current housing dimension, research participants could request: (1) a video clip showing generic features of "challenging" or "elder-friendly" homes, (2) a list of challenging or elder-friendly home features, and (3) photographs of a few features of the homes of vignette persons such as bathrooms and interior stairs. On the retirement community dimension, research participants could request: (1) a video clip showing generic features of "popular" and "upscale" or "luxury" retirement communities, (2) a list of features of a popular or luxury retirement community, and (3) a few photographs of the specific retirement community that the vignette person was considering. On the financial dimension, research participants could request a chart providing an analysis of the cost implications of a move to a retirement communities. They could also ask to see the recommendation of a financial planner. The generic video clips for current housing characteristics and retirement community quality always corresponded to the level that research participants were considering. In other words, when the vignette person lived in a "challenging" home, research participants had the option to see the video clip describing a challenging home. When the vignette person lived in an "elder-friendly" home, the video clip describing an "elder-friendly" home was available.

In vignette experiments, respondents typically are asked to judge more than one vignette. In this experiment, respondents were asked to judge four vignettes. By asking each research respondent to consider four vignettes, we were able to obtain a sample four times the number of research respondents.

Each respondent judged vignettes involving each of the four vignette persons. The sequence in which the vignette persons appeared varied randomly.

For each vignette, both older respondents and adult child respondents were asked whether they would recommend that the vignette person either remain in her current home or move to the retirement community. They were also asked to make recommendations for themselves; that is, they were asked to imagine themselves in place of the vignette person and provide a recommendation to stay or move. For the self-recommendations, older respondents

answered about themselves and adult children were asked to answer with reference to the parent or parent-in-law about whom they were concerned.

After judging four vignettes, older research participants were asked to respond to a questionnaire that sought personal background information on type of current housing, interest in a retirement community (among those living in their own homes), year of birth, gender, education, race/ethnicity, marital status, functional status of spouse, income, health and functional status of respondent, driving status, number of children, and proximity of children and friends. In the background questionnaire administered to adult children, questions were included about characteristics of the parent or parent-in-law who was of concern.

To address concerns about potential sequence effects, we developed and used two versions of the protocol. We were concerned that research participants might give more weight to information provided at the beginning of the vignette. To address that concern, we used two sequences for presenting information. As shown in the following, in Sequence 1, the functional status dimension was specified first, followed by current housing, social networks, retirement community characteristics, and financial considerations. In Sequence 2, the presentation of dimensions was reversed—financial considerations were first, followed by retirement community quality, social networks, information about current housing, and functional status.

Sequence 1

1. Functional status
2. Current housing
3. Social networks
4. Retirement community
5. Financial considerations

Sequence 2

1. Financial considerations
2. Retirement community
3. Social networks
4. Current housing
5. Functional status

Data collection procedures were approved by the Institutional Review Board at the University of Massachusetts Boston. For the older adult

version, the survey was administered to older people enrolled in a learning-in-retirement program at the university and in 10 senior centers in Boston suburbs. The learning-in-retirement program attracts participants from many municipalities in eastern Massachusetts. Most of the participating senior centers serve towns with above-average income levels with high rates of home ownership. In the learning-in-retirement program, research assistants went to classes where they made brief oral presentations and asked for volunteers. In most senior centers, the data collection was supported by research assistants. In 3 senior centers, trained older volunteers provided support. Research assistants and older volunteers also recruited research participants by approaching older people present at the senior centers.

Adult children were recruited through a variety of strategies that included outreach through the Internet to UMass Boston employees and to subscribers of an Internet support service for caregivers, newspaper advertising, and informal recruitment by project personnel. The vast majority of adult children completed the survey remotely (i.e., using their own computers and on their own time).

In most cases, older adult research participants used computers at the university or at a senior center. In these settings, a research assistant or volunteer was present to provide instructions. Research participants who were skilled in use of computers typically needed help only with getting started with the survey process. Often, research participants needed help at the outset in navigating screens and in recognizing interactive options. Research participants were not given a financial incentive for participating. Upon completion of the research, research participants who received face-to-face support from a research assistant or volunteer were given a handout with Web addresses that provide information about multiple aspects of the residential issues with which older people are concerned. Those who participated in the research at remote locations had access to a virtual copy of the handout through the project's Web site.

Findings

Respondent Characteristics

Data were collected from 215 older adults and 51 adult children. Altogether 1,064 vignettes were rated. Characteristics of older adults who were surveyed and the parents who were the referents for the adult children surveyed are summarized in Table 2. Also shown are a few characteristics of the adult children who participated. The typical older adult participant was a White woman

Table 2. Characteristics of Respondents and Parental Referents of Adult Children

Variables	Older adults ($n = 215$)	Adult children ($n = 51$)	Parents of adult children ($n = 51$)
Gender (% female)	78.5	80.0	86.1
Education (% 4-year college graduate)	51.9	81.6	19.2
Age (median)	73 years	62 years	84 years
Race (% White)	96.2		97.9
Marital status (% married)	45.8		
Income (% $50k and up)	47.5		34.7
Health status (self-reported; % excellent or very good)	45.5		4.2
Instrumental activities of daily living (% two or more)	31.2		84.3
Living in senior housing (%)	6.0		39.1

age 73 who was in excellent or very good health, with no more than one instrumental activity of daily living limitation. Approximately half of the older adults were married; half were college graduates; and half had incomes of $50,000 or more. The typical adult child was age 62. Of adult children, 80% were women, and 80% were college graduates. The aging parents referenced by adult children were substantially different from the older adult respondents on most of the background variables. They were older (median age 84), had less formal education, lower incomes, and poorer health. They were similar to older adult respondents only with respect to gender and race/ethnicity. Of the older adult respondents, 6% were living in retirement communities. Nearly 40% of the parents referenced by adult children were already living in senior housing, including assisted living facilities and nursing homes.

We first discuss recommended moves to retirement communities. Adult children were more likely than older people to recommend that the vignette person move to a retirement community (Table 3). When ratings were made by adult children, a retirement community was recommended for 71% of the vignette persons. When older adults made the ratings, a move to a retirement community was recommended for 59% of the vignette persons. Older adults also more often recommended a move to a retirement community for the vignette person than they projected for themselves under similar circumstances. Only 51% of older adults anticipated a move to a retirement community if they experienced a situation like that described in the various vignettes.

Table 3. Recommended Moves to Retirement Community (Percentages)

Recipients of recommendations	Older adults	Adult children
Vignette person	59.3	70.6*
Self/parent	50.6	70.6**

*$p < .01$, **$p < .001$.

Using logistic regression techniques, we tested the effects of characteristics of vignette persons on recommended moves. These characteristics included functional status of the vignette person, social network, home quality in terms of its friendliness for those with mobility limitations, quality of the retirement community being considered, and financial feasibility.

Older Adult Respondents

For older adults, all the substantive characteristics influenced recommendations, albeit not entirely in the way we expected. In Table 4, we report odds ratios of effects of levels within dimensions. Having functional limitations had strong effects on recommendations. Compared to a person who has no functional limitations, the odds of being recommended for a retirement community increased 84% when the vignette person had a few functional limitations. However, the odds of being recommended for a retirement community were over seven times greater than when the vignette person had more severe functional limitations, specifically, difficulty in climbing stairs, inability to drive, and inability to do housework.

The other substantive variables also affected recommendations but to a lesser extent. Compared to having many good friends in one's neighborhood, knowing only a few people in the neighborhood and having a good friend in the considered retirement community increased the odds of a recommended move to a retirement community. Compared to those with many good friends in the neighborhood, those knowing only a few people in the neighborhood were almost twice as likely to be recommended for a move to a retirement community. Again compared to those with many good friends in the neighborhood, having a best friend living in the retirement community under consideration increased the odds of being recommended for a move by 68%. When compared to those living in a home that is challenging for older adults, vignette persons who lived in homes with elder-friendly features were half as likely to be recommended for a move to a retirement community. The likelihood of a recommended move to a retirement community was lower when

Table 4. Logistic Regression Results Showing Effects of Substantive Variables in Vignette Structure on Recommendations for Move to a Retirement Community, Older Adults and Adult Children

	Older adults only		Adult children only		Interaction coefficients only (adult children incremental difference from older adults)[a]	
	b/se	Robust *SE*	b/se	Robust *SE*	b/se	Robust *SE*
Lives independently with some help	1.842***	0.333	1.446	0.561	0.785	0.334
Needs help regularly	7.428***	1.728	6.215***	3.162	0.837	0.465
Knows only a few people in neighborhood	1.984***	0.375	6.070***	2.934	3.059**	1.577
Best friend lives in retirement community	1.681***	0.298	1.98	0.902	1.178	0.572
Elder-friendly home	0.512***	0.077	0.236***	0.100	0.460*	0.205
Luxury retirement community	0.676**	0.103	1.915**	0.611	2.833***	0.995
Home financially better	0.646***	0.101	0.74	0.346	1.146	0.561
Constant	0.913	0.204	1.216	0.803	0.913	0.204
Pseudo R^2	0.12		0.203		0.141	
Log-likelihood	–513.6		–98.5		–612.1	
Chi-square	109.507		42.946		156.651	
N	860		204		1,064	

a. The interaction coefficients are interactions between the adult children indicator and the dimension variables. Model 3 includes a constant, each of the dimension variables, an adult child indicator, and the adult child indicator times each of the dimension variables. The sum of 1 + 7 + 1 + 7 = 16 variables.
*$p < .10$, **$p < .05$, ***$p < .01$.

the retirement community was luxurious than when the retirement community was described as "popular." Likewise, when remaining at home was financially advantageous over a move to a retirement community, older adults were less likely to recommend a move. (For the analyses reported here, the

four levels of financial feasibility shown in Table 1 were collapsed into a dichotomous variable: home financially advantageous or move financially advantageous; options A and B were combined as were options C and D.)

While all of the dimensions had statistically significant effects on the odds of being recommended for a retirement community, the dimensions varied greatly with respect to their effects on the odds of a recommended move. The functional status dimension affected the odds of a recommended move to a much greater extent than the elder friendliness of the current home, the features of the retirement community, and the financial implications of the move. The effect of the functional status dimension was particularly strong when the multiple functional limitations led the nurse to conclude that the vignette person needed help on a regular basis.

Adult Children Respondents

Logistic regression results for the sample of adult children are shown in data columns 2 and 3 of Table 4. Results for adult children alone are reported in data column 2. Interaction coefficients showing how adult children differed from older adults are shown in data column 3. Adult children responded to the vignettes in ways that were both similar to and different from the responses of the older adults. Adult children were similar to older adults in the importance they attached to functional status limitations that were serious enough to create a need for regular help. Adult children were also similar to older adults in less often recommending a move to a retirement community when vignette persons were living in elder friendly homes, but the data suggested that they were somewhat less influenced by features of the current home than were older adults. The biggest difference between adult children and older adults was in their reaction to features of the retirement community. Adult children recommended a move more often when the retirement community had luxury features. Older adults, on the other hand, recommended a move to a retirement community more often when it had more modest features. Adult children were also much more likely to be influenced by the social network variable than were the older adults. The odds that adult children recommended a move to a retirement community were three times greater than they were among older adults when the vignette person knew only a few people in the neighborhood.

Incidental Vignette Features

Besides testing the effect of predetermined vignette characteristics, we also tested for effects of certain incidental features, including whether the host

was a physician or a nonphysician; the actresses who played the vignette persons; the "experience" of the respondent, or in other words, number of vignettes the respondent had seen up to a given point in the survey; and the sequence in which vignette dimensions were presented. We also addressed four research questions associated with these variables. First, does an introduction to the topic by a physician, as opposed to a nonphysician, increase the likelihood of recommending a move to a retirement community? Second, does the specific actress (physical appearance, delivery, and setting) affect recommendations? Third, does the order in which vignettes were presented affect residential recommendations? Fourth, does the sequence in which information on dimensions is presented affect the influence of dimensions on respondent recommendations? On one hand, we might think that the first dimension is most salient because people often rely on initial impressions. On the other hand, the last dimension might be the most salient because people have limited recall.

The logistic regression analysis reporting results for the full sample shows that the identity of the host (physician or nonphysician) who introduced the topic did not affect recommendations to move (Table 5). The order in which vignettes were presented had a small effect. The odds of respondents recommending a move to a retirement community for the second vignette were lower than for the first vignette they rated. However, the likelihood of recommending a move to a retirement community for the third and fourth vignettes was similar to that for the first vignette. The audiovisual presentation of vignette persons did affect recommendations. Relative to vignette person "Alice," a move to a retirement community was more likely to be recommended when the vignette person was "Jean" or "Dorothea." Vignette person Dorothea had the greatest influence; relative to Alice, the odds of a recommended move to a retirement community were nearly double when the vignette person was Dorothea. (Although the written information provided to research participants indicated Dorothea was only one or two years older than the other vignette persons, the actress who played Dorothea was actually more than five years older than the other actresses.)

Finally, the sequence in which dimensions were presented within vignettes affected recommendations on the financial dimension. To test the effect of dimension ordering, it is not sufficient simply to see how ordering affects recommendations. We examined whether ordering affected the magnitude of reactions to dimensions that were either ordered first or last. As mentioned previously, the first dimension may be most salient under an initial impressions argument; however, the last dimension may be most salient under a limited recall argument. In Table 1, we show the sequence in which information

Table 5. Logistic Regression Results Showing Effects of Incidental Variables and Effects of Positioning of Financial Dimension

	Incidental dimensions only		Substantive dimensions added		Order of financial variables added	
	b/se	*SE*	b/se	*SE*	b/se	*SE*
Doctor introduction	1.194	0.183	1.164	0.203	1.186	0.208
Vignette order 2	0.647***	0.106	0.626***	0.110	0.608***	0.108
Vignette order 3	1.003	0.172	1.132	0.209	1.142	0.214
Vignette order 4	0.785	0.130	0.805	0.142	0.781	0.139
Vignette person: Jean	1.601***	0.265	1.684***	0.301	1.642***	0.294
Vignette person: Dorothea	1.915***	0.312	2.128***	0.377	2.090***	0.374
Vignette person: Lois	1.368*	0.237	1.486**	0.270	1.503**	0.276
Lives independently with some help			1.784***	0.287	1.701***	0.280
Needs help regularly			7.315***	1.556	7.461***	1.596
Knows only a few people in neighborhood			2.351***	0.413	2.167***	0.396
Best friend lives in retirement community			1.765***	0.293	1.714***	0.295
Elder-friendly home			0.473***	0.065	0.479***	0.065
Luxury retirement community			0.832	0.116	0.874	0.123
Home financially better			0.685**	0.102	0.991	0.198
Financial information presented first					1.167	0.269
Home Financially Better × Financial Information First					0.432***	0.133
Constant	1.187	0.210	0.622*	0.176	0.606	0.185
Pseudo R^2	0.018		0.140		0.149	
Log-likelihood	−700		−613.2		−606.9	
Chi-square	27.552		144.837		159.095	
N	1,064		1,064		1,064	

*$p < .10$, **$p < .05$, ***$p < .01$.

was presented in the first iteration of the experiment. In that iteration, functional status information was presented first and financial information last. In the second iteration of the experiment, the financial dimension was presented first and the health dimension last.

The benchmark regression (data column 2) suggests that the odds that respondents recommended moves to a retirement community were about a third lower when the vignette person was better off financially by staying in her current residence. However, much of this effect was dominated by respondents who were given the financial information first (sequence 2) as seen in data column 3 of Table 5. In fact, respondents who were given this dimension last were not sensitive to the financial component. In other words, when financial information was presented last, the odds of respondents recommending a move were not greater (odds ratio is near one and is not significantly different from one at the tenth percentile) when it was stated that the move would be financially advantageous. However, when financial information was presented first, the odds that respondents recommended the vignette person move to a retirement community were greater if there was financial advantage to moving.

In addition to testing how vignette characteristics play a role in the decision-making process, we were interested in seeing whether certain groups of people responded differently to the vignettes from others. We examined the effects on vignette ratings of personal characteristics of the older adults. (Because of the smaller number of adult children who participated in the study, we limited the analysis to older adults.) The variables examined included age, gender, marital status, self-reported health, education, and income. None of the personal characteristics was significantly related to recommended moves of vignette persons.

We also replicated the regression analyses, focusing on what older adults would do themselves if they were in the situation described for the vignette person. (Adult children were asked what they would recommend for their family members in the situation described in the vignette.) The results closely paralleled the findings of the analyses reported previously. For that reason, we have not included tables reporting these additional data analyses.

Finally, the sample of adult children enabled us to address a question about possible effects of current residence on recommendations. In cases in which the aging parents of respondents were already living in retirement communities, we wondered whether respondents would be more likely to recommend a move to a retirement community. There were enough aging parents living in retirement communities to enable us to make that comparison. We found no relationship between current residential location of aging parents and the recommendations made for vignette persons.

Discussion

Practice wisdom, if not the research literature, suggests that residential relocation of older people is often initiated by adult children. We found evidence

consistent with that empirical generalization. Those participating in the study as adult children were more likely to recommend a move to a retirement community than those participating as an older adult who was a potential candidate for a move. Furthermore, older people were also more likely to recommend a move to a retirement community for a vignette person than they would consider it for themselves, whereas adult children equally projected their opinions and recommendations (Table 3). The latter finding is consistent with the findings of other research that older people tend to be reluctant to move. The findings are suggestive of the extent to which older people excuse themselves from what they recommend for other older people.

Adding interest to the differences between older adults and adult children in the likelihood of recommending a move are the findings that personal characteristics of older adults and the residential location of older adults referenced by adult children had no effects on recommendations. Those participating as adult children were themselves often older adults. The findings suggest that the role that participants played in the study had an effect on their recommendations. In other words, those who approach the topic as adult children concerned about the welfare of an aging parent may have a greater predisposition to recommend moves to retirement communities than those who approach the topic with concerns about their own residential location.

The finding that older adult respondents more often recommended a move to a retirement community for vignette persons than they projected such a move themselves if they experienced the situations described in the vignettes is not surprising in light of previous studies that have documented resistance to moves on the part of older people (Bayer and Harper 2000; Leeson 2006). Future studies using vignette methods to study residential decision making might shed light on the reasons for this discrepancy by including probes when recommendations for vignette persons differ from projected personal choices.

Beyond the basic differences between older people and adult children in the likelihood of recommending a move to a retirement community, the findings show that research participants were influenced by the situations described in vignettes rather than their own personal characteristics. Collectively, research participants were sensitive to each of the five substantive dimensions. However, there were important differences in the extent to which research participants were sensitive to the dimensions. Older adults were most responsive to the functional status dimension. When the vignette person was described as having difficulty in climbing one flight of stairs, being unable to drive, and unable to do light housework by herself, research participants were much more likely to recommend a move to a retirement community than when the vignette person was described as having no difficulty in climbing a flight of stairs, driving

her car safely under any normal road and weather conditions, and doing light housework. Older adults and adult children were 40% and 30% more likely, respectively, to recommend a move when the vignette person had the set of functional limitations described in the vignette. The results indicate that research participants were most responsive to the vignette person's need for assistance with daily living tasks.

Research participants were least responsive to the financial dimension. Among all research participants, the contrast between those who were better off financially by moving and those who were less well off with a move to a retirement community made less than a 10% difference in the recommendations. There are multiple potential explanations for the difference between the two dimensions (functional status and financial impact) in their effect on research participants' recommendations. A strong possibility is that in the eyes of research participants, the functional status dimension is simply much more important than any of the others. The differential impact of the two dimensions cannot readily be attributed to supplementary information. Recommendations from professionals were available to research participants for both dimensions. No other supplementary information was provided for the functional status dimension, as it was for the financial dimension.

The weak impact of the financial dimension is a concern. Conventional wisdom suggests that the choices older people make about residential strategies are heavily affected by financial considerations. We expected, for example, that the financial dimension would be more powerful than the social network dimension. Yet, the effect of the financial dimension was rather weak. Its effect was linked to the sequence with which information was presented in the vignette and to retirement community quality. The presentation of financial information in the experiment was enhanced by both a recommendation from a financial planner and a spread sheet that provided detailed information on the implications of a change of residence for personal finances. The financial dimension was not elaborated by either video clips or photographs. One possibility is that research participants were less influenced by the financial dimension because it was more complex and less engaging to them than the other dimensions. For that reason, respondents may have passed up the opportunity for the supplementary information that was offered. Similarly, they may have paid less attention because they considered themselves to be less competent to consider the financial dimension. Concerns about lack of financial literacy among older people are well documented in the gerontology literature (Lusardi and Mitchell 2007). The supplementary information provided in a spread sheet required fairly careful examination if it was to be helpful. It is possible that when competing with other dimensions that could

be grasped quickly, the financial dimension did not compete well because it required more thorough consideration. Perhaps respondents were influenced by the financial dimension only when it was the first dimension presented because they had no other information on other dimensions to consider. It is possible that respondents were less receptive to considering the dimension when it was presented last because of the combination of clear information on other dimensions and resistance to considering a dimension that offered complex information. Still another possibility is that the contrasts between the financial outcomes were not great enough to make a big difference. Vignette persons were asked to consider the implications of a move to a retirement community for their bequest objectives. In each case, vignette persons aspired to leaving a bequest of $300,000. By moving, the vignette person would at best have nearly $200 more in spending money per month; at worst, the participant would have $175 less in spending money per month in order to retain the $300,000 bequest. Under no circumstances was the vignette person at risk of running out of money. The potential difference of $375 per month in spending money in an overall context of financial security may have made the financial dimension seem less important than it would if vignette persons had been at risk of financial insolvency.

Particularly in the case of the financial dimension, knowledge of the supplementary information selected by respondents might have been illuminating. In the study described here, the requests of respondents for supplementary information were not recorded. Future research using the methods described here would be stronger if respondent data requests were recorded.

The most important difference between older people who were responding for themselves and those who were responding as adult children was in the assessment of the retirement community dimension. In some cases, vignette persons were considering what was described as a popular retirement community. The facilities were depicted as modest; the amenities offered were limited. Other vignette persons were considering what were described as upscale or luxury retirement communities with more attractive physical facilities and more extensive services. Older people more often recommended a move when the retirement community was "popular." Adult children more often recommended a move when the retirement community had luxury or upscale characteristics. It is possible that older people are more attracted to retirement communities with relatively modest features. Older people may believe they would feel more comfortable with people who would be attracted to a more modest setting. It is also possible that some older research participants were wary of the costs of luxury retirement communities even though cost implications were provided and vignette persons were sometimes better

off even with a move to a luxury retirement community. Another possibility is that the greater preference of adult children for the luxury option stems from functionality; adult children may see themselves as taking greater advantage of the amenities of retirement communities because they are healthy and active; they picture a retirement community almost like a resort or vacation. Still another possibility is that adult children may want the best for a parent out of guilt at recommending that the parent leave home. The lower interest in luxury features on the part of older persons might stem in part from perceived lack of ability to use some of the amenities or simply lack of interest in those sorts of things so they "don't need them" and opt for a more modest residence. A further possibility is that some older adults did not separate the features of the retirement community from the financial dimension in the way that we asked them to do. These older adults may have responded more positively to the "popular" retirement community because they perceived that it would be more affordable.

Adult children were more sensitive to social isolation than were older respondents. Both groups of respondents recommended a move more often when vignette persons knew only a few people in the neighborhood (compared to the situation in which the vignette person had many good friends living in the neighborhood). For adult children, this social isolation indicator was as powerful as the functional status variable in eliciting a recommendation to move. For older adults, the dimension was much less important. It is possible that adult children are more likely than older adults to interpret knowing fewer people in the neighborhood as a sign of vulnerability because of lack of informal support from neighbors that contributes to reasons for relocating to a retirement community. Adult children may also interpret weak social networks in neighborhoods as a sign that more extensive support from them may be needed.

The study findings invite further research. The analysis presented here provides no information on how interactive features were used by research participants and how that use affected responses. In this study, the use of interactive features was not sufficiently measured to permit useful analysis. In future studies, more sensitive recording of use of interactive features is needed so that analysis can be done of the extent of use of interactive features and the implications of use patterns for judgments. A basic question is whether those who request supplementary information make different recommendations from those whose informational needs are more readily satisfied. Another question is whether type of information requested affects recommendations. In the current study, for example, participants could select supplementary financial information that included a simple recommendation from a financial planner and a chart with detailed financial data. Much less effort was required

to read an expert's recommendation than examine a chart. It would be useful to determine whether those who are content to rely on an expert opinion are different in their recommendations from those who want to examine data in a chart.

Replication of the study with stronger contrasts in the financial dimension would be useful. At a minimum, inclusion of sharper financial contrast would be helpful in determining whether finances are given more weight by research participants when there is more at stake financially for vignette persons. There also should be greater methodological attention to how financial information is provided to research participants with limited financial literacy. The challenge in a research experiment in engaging research participants quickly and effectively on a financial dimension is a microcosm of real-life situations in which older people with limited financial literacy must make major decisions quickly about residential matters that have great implications for their financial well-being.

An expansion of the dimensions included in the vignette scenario would be useful. Vignette persons should include both men and women. Inclusion of married couples among the vignette persons also would add interest. One or more dimensions might be devoted to neighborhood features including both safety considerations and proximity to community resources. An informal support dimension merits inclusion to reflect the extent to which family members are available to provide assistance. A dimension with recommendations of an adult child would be valuable in light of the role that adult children often play in encouraging a parent to relocate. More information about retirement community characteristics might be helpful in illuminating the differences between older people and adult children in their assessments of the attractiveness of retirement communities.

A methodological uncertainty in vignette experiments is the number of dimensions within a single vignette that survey respondents can meaningfully assess (e.g., risk of substantially reducing the bequest). As indicated earlier, investigators can readily identify many more dimensions than is feasible to include in a single vignette experiment on relocation decision making of older adults. That limitation can be addressed in part through a design that includes blank options for some dimensions. The implication for the experience of research participants when the design calls for blank dimensions is that in any one vignette, information is available on only a limited number of dimensions in the vignette scenario. Research participants are asked to make judgments on the basis of the provided information.

The research might also be expanded to cover other residential adjustments that are plausible for older people in the situations that were studied

here. These options include home modifications and introduction of assistive devices. Older people have multiple options when they move to different residences. Vignette methods might be used to examine the circumstances under which home modifications, a move to another conventional residence with elder-friendly features, or a move to some form of service-supported housing is recommended.

The method might also be used to study attraction to various options involving proximity to adult children, including coresidence with an adult child, living in an accessory dwelling unit in the same building as an adult child, moving to conventional housing near an adult child, or moving to a senior residence close to an adult child.

Even though this study produced no evidence that background characteristics of research participants affect their response to vignettes, a study explicitly designed to compare respondents who differ in their current housing characteristics might be productive. A vignette experiment could be designed, for example, to compare recommendations of community-residing older people with peers who live in senior residences. Also interesting would be a study that asked older adults to participate in a vignette experiment like that described here both before and after moves to retirement communities. Those who have made a successful transition to retirement communities might be more favorably disposed to retirement community options for their peers on the basis of their own experiences.

A stronger research design would compare dyads of older people and their concerned adult children. The separate recruitment of adult children and older people for this study leaves open the possibility that life experiences that provided a frame of reference in responding to the vignettes were different for the two groups. The characteristics of the parents profiled by those who participated as adult children were very different from the characteristics of the older adults who participated. These differences may have accounted for the greater likelihood of recommending a move among adult children than among older adults. A dyad study would be of particular interest if it focused on extent of agreement and disagreement between older adults and adult children in judging matched vignettes.

Because timing can be a major complicating factor in relocation decisions, future vignette experiments might focus on timing issues. Those who prefer to continue living where they are have reason to ask how long they can put off relocation. Uncertainties about the future affect timing-related decisions. Older people can ask whether an acutely experienced environmental press is the result of temporary, stable, or progressive conditions. In

other words, can consideration of a move be set aside because improvement in health and functioning is likely? Alternately, should older people move to less challenging and more supportive settings because over time their functional capacity will continue to deteriorate, resulting in greater environmental press? In light of predictably increasing environmental press, should they relocate before they experience a crisis? If so, what circumstances should trigger a move? Unless a crisis dictates that a relocation decision should be made immediately, older people, like any other shopper, can decline any option that is considered. Lack of action can result from either conscious choice to delay a decision or from a shift of attention to other matters. No residential option is likely to be fully satisfactory on all dimensions. In theory, the residential shopper can always reject a current option in the hope that a better option is available later. Future vignette experiments might focus on whether vignette persons should relocate immediately or postpone a relocation decision indefinitely. The vignette scenario would include both degrees of urgency of current challenges and expectations regarding health and disability trends. Projections of future risks would be introduced to experiments by clinical experts.

Conclusion

The study illustrates the complexity of issues that underlie decisions made by older people to continue living independently in an age-integrated setting or to move to a retirement community. The study is suggestive of the relative weight that older people give to the several dimensions that were included in this study and invites further studies that examine these issues more thoroughly. At the same time, the study illustrates the general utility of stated-choice methods in understanding residential decisions. More specifically, the study illustrates the potential of Internet-based survey methods that allowed us to administer an experiment through video clips and incorporate interactive features that permit examination of the use of information in decision making. For academic gerontologists, the approach suggests possibilities for conducting future experiments that advance the understanding of residential decision making. For those in the senior housing industry, the approach provides an improvement over established market research methods to examine consumer receptivity to innovative features being considered in senior housing design.

The use of video clips in administering vignette experiments on the Internet can also be extended usefully to many other topics concerning older

adults. The manner in which family members define their responsibilities within and between generations, the bases for professional judgments concerning problems experienced by older people, and the bases upon which older people and their families make end-of-life decisions are examples of other topics for which these methods are highly applicable. The usefulness of stated-choice methods in studying decision making is well established. The use of video clips and interactive options in an internet environment in administering these experiments opens many opportunities to enrich these studies.

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