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Abstract

This paper illustrates an innovative method of administering fractional factorial surveys (vignettes) using the internet. The approach makes it possible to use video clips to deliver information. The method also provides subjects with interactive options before making judgments. A study to determine the views of older people regarding residential options is used to illustrate the method. The study found that the following characteristics of vignette persons affected subject recommendations: personal introduction, functional status, social network, and current housing characteristics. However, characteristics of retirement community features and personal financial status did not affect recommendations.

INTRODUCTION

Behavioral researchers interested in a wide variety of applications have used vignettes to understand the basis for complex judgments (Green, 1974; Alexander & Becker, 1978). In making decisions, people rarely use a systematic rational planning process through which they identify pertinent goals, establish priorities, and weigh evidence on the extent to which various options are likely to enable them to maximize their objectives. More often, people make judgments quickly with limited insights about the ways in which they were influenced by the information that was available to them. Vignettes are among the techniques used by social and behavioral scientists to understand the basis for human judgments. When used in surveys, vignettes are hypothetical situations presented to respondents to obtain an opinion about desirable or anticipated behavior. The premise in use of vignettes in surveys is that responses to hypothetical choices provide insights about behavior in real choice situations. A further premise is that hypothetical choices may be revealing in ways that are different from and more revealing than respondent opinions about abstract principles. Vignette methods are often used when it is not practical or feasible to study actual behavior. Vignettes in surveys represent an inexpensive technique for approximating the use of experiments to study behavior. A variety of names is used to identify vignette survey techniques: conjoint analysis, contingent evaluation method, fractional factorial survey, and stated choice methods. The differences in terminology reflect the fact that vignette methods have been developed independently in a number of disciplines. Topics frequently studied using vignette methods include: market research on product preferences, empirical studies of ethics, the bases upon which professionals such as health care providers form diagnostic opinions and treatment recommendations, and the normative basis for public policy.

Cavanaugh and Fritzsche (1985) make a useful distinction between two types of vignettes used in surveys: constant variable value vignettes (CVVV) and contrastive vignette techniques (CVT). When the CVVV approach is used, all subjects are asked to respond to identical vignette content. When CVT methods are used, the vignette structure is systematically manipulated so that subjects are asked to respond to somewhat different vignette content. In

the CVT approach, researchers examine the ways in which vignette structure influence responses. Studies that use the CVVV approach are easier to design and administer than those using CVT methods. However, studies employing CVT methods offer analytic possibilities that far exceed what is possible with data collected with CVVV methods. The current paper is focused entirely on use of contrastive techniques (CVT).

The purpose of this paper is to illustrate an innovative use of the internet to administer surveys that include vignettes based on contrastive techniques. Use of the internet makes it possible to overcome some of the disadvantages associated with other means of administering surveys using vignettes with CVT features. In traditional surveys with complex vignette content, it is desirable for respondents to be able to read vignette content. This necessitates production of printed questionnaires that vary from one another because of variations in vignette structure. Coding systems need to record both respondent choices and the characteristics of the vignettes rated by respondents. Computer-assisted telephone interview protocols make it possible to avoid the printing of questionnaires and to assure that vignette characteristics are as accurately recorded as subject responses. However, Computer Assisted Telephone Interviewing (CATI) systems typically do not provide a printed vignette that a respondent can read independently.

Major advantages of use of the internet for general survey administration have been documented elsewhere (Dillman, Smyth, & Christian, 2008). The internet makes it possible for many respondents who are separated geographically to see a questionnaire simultaneously. Responses can be recorded promptly. Data entry is eliminated as a separate step in the research process since subject responses are added immediately to an electronic data file.

In the research reported here, the internet is used also to deliver information including vignette content to subjects through video and audio clips. Use of video and audio clips provides a means of engaging subjects more fully than is possible with written information alone. Videos have previously been used successfully in delivering vignette content. Arber, McKinlay, Adams, Marceau, Link, & O'Donnell (2006) studied primary care doctors who viewed a video-vignette of a scripted consultation where the patient presented standardized symptoms of coronary heart disease. Videotapes were identical apart from varying patients'

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gender, age (55 versus 75), class, and race. The study showed that the gender of the patient significantly influenced doctors' diagnostic and management activities.

Use of video and audio clips to deliver vignette content provides investigators a number of distinct advantages. First, a video format can be helpful in enlisting interest from the subject and assisting the subject in identifying with vignette persons. Video can also be helpful in addressing some of the challenges identified by Wason, Polansky, & Hyman (2002) in designing vignette content. These challenges include making the vignettes believable, making the manipulated variables obvious, and guarding against framing effects. Use of video to deliver information provides investigators with a way to achieve a good balance between making the manipulated variables clear to subjects and minimizing the risks of framing effects.

Further, the internet provides opportunities for investigators to make interactive options available to subjects before they make judgments. In real world choice situations, people often have opportunities to seek additional information before they make decisions on complex matters. In internet-based vignette studies, subjects can be given opportunities to seek information beyond that initially provided by investigators. Opportunities to probe for additional information can be helpful in sustaining the interest of research subjects. Further, investigators can record the extent to which respondents took advantage of opportunities to seek additional information. In addition, investigators can record the amount of time taken by subjects in responding to vignette content. For investigators, it is useful to know how the quantity and kind of information considered influence the judgments made by subjects.

In this paper, we describe a study that illustrates the use of this methodology. The study was concerned with the basis on which older people who live in their own homes make residential choices when they are confronted with health and disability challenges. Most older people in the United States live in homes that they own and have occupied for many years (Woodward & Damon, 2000). Characteristically, older people are attached to their homes and are reluctant to move (Mutchler & Burr, 2003). At the same time, there often are forces at play such as declining health and the death of a spouse that provide older people with reason to move to a more supportive residential environment (Walters, 2000). Both for profit and non-profit organizations provide a variety of service-supported residential options for older people.

Some are described as retirement communities; others are known as assisted living facilities. Residential decision making of older people lends itself to study through use of vignette methods for a number of reasons: 1) the topic is important to older people and their adult children, 2) older people can make but do not necessarily make a residential choice through a careful consideration of options, and 3) older people have reason to consider information on a number of diverse dimensions in making decisions about residential options. Use of a method that permits delivery of information visually is particularly helpful in the case of research on residential options since information on housing characteristics particularly lends itself to visual presentation.

METHODS

We began the research process by conducting qualitative interviews on residential options with an opportunity sample of 34 older people (Gottlieb, Sauder, & Caro, 2009). Volunteer subjects were recruited from among older people who were either enrolled in the learning-in-retirement program or who were active as volunteers at the Gerontology Institute at the University of Massachusetts Boston. The interviews covered participants' current residential circumstances; residential changes participants had made in response to changing health, financial, and personal (marital status, etc.) circumstances; residential steps participants had undertaken or contemplated to address potential long-term care issues; and priorities regarding residential considerations. Through the qualitative interviews, we gained insights about the importance of residential options for older people, the dimensions important to older people in considering residential options, and the language used by older people in discussing residential issues.

In designing the vignette experiment, we deliberately simplified the situation to be studied. Simplification was necessary to avoid overwhelming subjects with information and options. Subjects were asked to consider only two options: remaining in current housing or moving to a specific retirement community. Subjects were not asked to consider home modification as an option. Subjects were also asked not to consider as options a move to a conventional age-integrated housing or to a nursing home.

Subjects were asked to consider the situations of hypothetical vignette persons with whom they could identify. Our premise is that subject-recommended actions for vignette persons would provide insights about what subjects would do themselves if confronted by a similar situation. We work within the premise articulated by Peter Rossi that members of a society embrace common social norms; accordingly, the opinions of a sample provide a basis for understanding the norms that prevail within the society (Rossi & Anderson, 1982).

We deliberately considered only the circumstances of older people whose spouses had died. Accidently, we also considered only the situations of widows. We created a vignette scenario using a framework proposed by Rossi & Anderson (1982) in which a distinction is made among dimensions, levels, objects, judgments, and the factorial object universe. Dimensions are social objects that can vary qualitatively or quantitatively. Levels are the specific values that a dimension may take. Objects are units being judged that are described by a single level for each dimension. A judgment is the rating given by a respondent to an object. The factorial object universe is the set of all unique objects formed by all possible combinations of one level from each of the dimensions (i.e., the product of all of the levels).

In the study described here, we included five substantive dimensions with levels that varied from two to four: 1) functional status (3 levels), 2) social network (3 levels), 3) current housing (2 levels), 4) retirement community characteristics (2 levels), and 5) financial considerations (4 levels). We also included two supplementary dimensions: a substantive introduction and introductions by vignette persons. To establish a substantive context for the research, subjects watched and listened to a video clip in which a mature man spoke about the relative merits for older people staying in their homes or moving to a retirement community. In one case, the man introduced himself as a doctor. In the other case, the man introduced himself only by his first name. Although the introduction was intended to be balanced, we wanted to see whether the identity of the host would have an influence on respondents' judgments. Each of the four vignettes that subjects were asked to rate was introduced by a video clip of a different woman (Jean [age 76], Alice [age 75], Dorothea [age 77], and Lois [age 75]). Each of the women provided similar information; 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. The settings in which the women were filmed also differed. We wanted subjects to be able to identify with the vignette persons. Because of the possibility that subjects would identify with the vignette persons in different ways, we considered the identities of vignette persons to be dimensions for analytic purposes. The vignette structure is shown in Table 1. Considering only the substantive variables, the factorial object universe was 144. With the addition of the supplementary dimensions, the factorial object universe was 1152.

TABLE 1 (Back of report)

We provided interactive options on four of the five dimensions. On the functional status dimension, subjects could request the recommendation of a visiting nurse. On the current housing dimension, subjects 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, 3) photographs of a few features of the homes of vignette persons such as bathrooms and interior stairs. On the retirement community dimension, subjects could request: 1) a video clip showing generic features of "popular" and "up-scale" retirement communities, 2) lists of features of the retirement community that the vignette person was considering, and 3) a few photographs of the specific retirement community that the vignette person was considering. On the financial dimension, subjects could request a chart showing detailed expenses if they remained in their homes or moved to retirement communities. They could also ask to see the recommendation of a financial planner. The generic video clips for current housing and the retirement community that was considered always corresponded to the level that subjects were considering. In other words, when the vignette person lived in a "challenging" home, subjects 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 that home was available. Much of the detail of the vignette scenario is shown in the appendix. Included in the appendix are the instructions to subjects, examples of a functional status level, a nurse's recommendation, and a current housing level. Following are lists of features of a house that is safe for an older person and characteristics of a housing that is challenging for an older person. These lists are followed by examples of a retirement community option, the wording of a

financial dimension condition, a financial planner's recommendation, and a table showing financial details. The appendix concluded with the wording of the choice options.

For each vignette, subjects 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 rate their confidence in their choice on a 10-point scale anchored by "just guessing" and "absolutely sure." Subjects were also asked what they would do if they were in the situation of the vignette person. Again, they were asked to rate their confidence in their choice. After judging four vignettes, subjects were asked to respond to a questionnaire that sought 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, functional status of respondent, driving status, number of children, proximity of children and friends, expectation of leaving a bequest, survival expectations, financial concerns, and happiness.

Internet Administration of the Survey Program

The core design and process flow of the vignette-approach experiment was captured in web-based software. The software was developed and tested extensively on various operating platforms, browser versions, and with users of different technical expertise. The software consists not only of the components with which subjects or respondents interact; it also has an administrator control panel that gives the organization conducting the experiment the ability to manage, monitor, and control the administration of the experiment.

The software employs standard cascading style sheets and browser-sensitive client-side JavaScript to ensure a consistent look-and-feel across the experiment and maximum compatibility with the various browser versions and operating system platforms.

The software is supported by an MSSQL databases and structures with predefined views and procedures to ensure optimal response time and data management.

Data Collection

Older people were challenging subjects for a study that sought to develop new methods for web-based vignettes to subjects. Many older people have limited skills using computers for internet access. Because we sought to include subjects with little skill using computers, we used

data collection techniques that would not have been necessary with internet-proficient subjects.

The survey was administered to older people enrolled in a learning-in-retirement program at the University of Massachusetts Boston and in five senior centers in Boston suburbs. The suburbs selected for subject recruitment have 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. Those enrolled in classes were given handouts describing the study. In the senior centers, the study was described in newsletters that were mailed to homes of older residents. Interested persons were invited to call to make an appointment. Research assistants also recruited subjects by approaching seniors present at the senior centers.

In most cases, subjects used computers at the university or at a senior center. In these settings, a research assistant was present to provide instructions. Subjects who were skilled in use of computers typically needed help only with getting started with the survey process. Often, subjects needed help at the outset in navigating screens and in recognizing interactive options. A few subjects with no experience using a mouse needed help throughout the process. Subjects recruited in senior centers tended to be a few years older than those recruited through the learning-in-retirement program. Further, those recruited in senior centers tended to be less computer proficient than those recruited through the learning-in-retirement program.

Upon completion of the research, subjects were given a handout with web addresses that provide information about multiple aspects of the residential issues with which older people are concerned. Subjects were not given a financial incentive for participating.

RESULTS

Subjects participated in the survey between November 2007 and May 2008. Data were collected from 124 respondents. Characteristics of subjects are summarized in Table 2. The typical respondent was a white woman in her 70s who was healthy, married, and a college graduate with an income well above average for older people in Massachusetts.

TABLE 2 (Back of report)

Respondents were well divided between recommending a move to a retirement community and recommending that vignette persons remain in their current homes; for 61% of the vignettes, a move to a retirement community was recommended. Respondents were somewhat less likely to predict that they would move to a retirement community under similar circumstances; 51% of the respondents indicated that they were likely to move a retirement community under circumstances like those described in the vignettes. For recommendations for vignette persons, confidence ratings average 7.3 on the scale of 1 to 10. Subjects were more confident in their retirement community recommendations than they were with their continue-at-home recommendations (F = 5.6, p < .05). Subjects were more confident in their recommendations for themselves, with average confidence ratings of 7.9. In this case, subjects were equally confident in their stay at home predictions as they were in their move-to-the-retirement community predictions.

To determine the correlations between factors (in Table 1) and whether respondents recommend a vignette person to move into a retirement community, we estimate a linear probability model[1] that specifies the dependent variable as a linear function of observed covariates:[2]

$$R_{ij} = \alpha + \beta_1 Host_{ij} + \textbf{Vig}_{ij}\boldsymbol{\beta_2} + \textbf{Functional}_{ij}\boldsymbol{\beta_3} + \textbf{Social}_{ij}\boldsymbol{\beta_4} + \beta_5 FH_{ij} + \beta_6 LRC_{ij} + \textbf{Financial}_{ij}\boldsymbol{\beta_7} + \textbf{X}_{ij}\boldsymbol{\beta_8} + \varepsilon_{ij} \,,$$

where R_{ij} is a dummy variable that is equal to one if respondent *i* recommends the vignette subject under scenario *j* to move to a retirement community. $Host_{ij}$ signifies whether respondent *i* who is a respondent to vignette scenario *j* sees the consumer recommendation (as opposed to the physician recommendation); $\textbf{Vig}_{ij}$ are dummy variables for vignette subjects – Jean, Dorothea, and Lois (as opposed to Alice); $\textbf{Functional}_{ij}$ are dummy variables for functional status B and C in Table 1; $\textbf{Social}_{ij}$ are dummy variables for social network descriptions B and C in Table 1; FH_{ij} indicates a friendly home (as opposed to an unfriendly home); LRC_{ij} indicates a

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[1] Because respondents' recommendations are more or less evenly split between moving and remaining in current living situations, the outcome probabilities are estimated using a linear probability model, which approximates closely either the logit or probit models.
[2] Bold face symbols indicate vectors of variables or parameters.

luxurious retirement community (as opposed to a popular home); **Financial$_{ij}$** are dummy variables for financial scenarios B, C, and D in Table 1; and finally **X$_{ij}$** are other variables including demographic and cognitive characteristics of the respondent. ε_{ij} is an error term.

Table 3 reports three specifications of the model above. In the first regression, we included only the functional status and social network of the vignette persons. In the second, we added the characteristics of the current housing of the vignette person and the characteristics of the retirement community. In the third, we added the financial implications of a move to a retirement community. Each of the dimension estimates is rather robust to specification, which is suggestive that the dimensions were independent from one another as designed by the fractional factorial design.

TABLE 3 (Back of report)

A number of variables in the vignette structure were associated with recommended moves, including functional status, being less socially attached to current neighborhood, and having a home that is not easily assessable for elderly people. Other variables did not seem to significantly alter people's recommendations. For example, the results suggest that having a physician rather than a layman encourage consideration of retirement communities does not seem to have a significant effect. In addition, relative to vignette subject Alice, vignette subjects Jean and Lois did not significantly draw people towards recommending retirement communities. However, the vignette subject Dorothea positively influenced people to recommend moving to a retirement community on average by 11%. Although supposedly only one or two years older than the other vignette subjects, the actress who played Dorothea was indeed older by more than five years than the other actors who volunteered to be vignette subjects.

Relative to someone who can function independently without help, someone who needs some help is recommended to move to a retirement community approximately 13% more often, and someone who needs help regularly is recommended approximately 41% more often. Knowing fewer people in one's neighborhood or having friends in the retirement community under consideration draws more people to recommend moving out of one's current living situation. When vignette persons knew only a few people in the neighborhood or had a

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best friend living in the retirement community, a move to a retirement community was more likely to be recommended by 20% and 13-14%, respectively. Characteristics of the physical environment in current housing also influenced the recommendation. As one might expect, people on average recommended leaving one's current living situation about 15% less if the vignette person has an environmentally friendly home rather than a home with difficult accessibility for the elderly. Surprisingly, neither retirement community characteristics nor implications of the move for the financial status of vignette persons had an effect on retirement community recommendations.

Some characteristics of respondents are correlated with their recommendations. Table 4 shows results from estimating the linear probability model discussed previously and including demographic and other respondent characteristics, $\mathbf{X_{ij}}$. These characteristics include gender, age, education, race, marital status, income, health status, children information, life expectancy, and happiness variables. The results demonstrate that respondents with higher levels of education were more likely to recommend moving to a retirement community. For example, respondents with two-year college degrees were on average 30% more likely to recommend moving to a retirement community than those with no college experience, and those with a post-graduate degree were 20% more likely.

People's recommendations were not significantly different based on marital status. Surprisingly, income brackets did not seem to significantly affect whether one recommends moving or not. Although not significant, African Americans (ceteris paribus) recommended staying in one's current housing more often than whites and Hispanics.

TABLE 4 (Back of report)

While not significant in Table 4, having a spouse who is disabled might be a factor of one's life that we might expect to alter people's sensitivity or relation to vignette subjects. Table 5 shows results of regressions that divides the sample into those with disabled spouses and those without (columns 2 and 3, respectively). The benchmark from Table 3 is given in the first column. The results suggest that, though not significant, those who do have spouses that are disabled seem to weigh "needs help regularly" more than those who do not have disabled spouses, the difference being 13 percentage points (46% less 33%). When tested directly,

however, the interaction between functional statuses and spouse disability were not significant (column 4), although this may be due to a small sample size.

TABLE 5 (Back of report)

DISCUSSION

With our initial pilot study, we achieved most of our objectives. We created a web environment in which subjects could see video clips, hear audio presentations, and interact with hyperlinks to supplement text. Subjects were able to access the survey using varied hardware and software. Subjects were able to move from screen to screen without difficulty. Video content came up promptly enough so that subjects were not frustrated by delays in the availability of information. Older subjects unfamiliar with computers were able to participate with the aid of a research assistant. In most cases, subjects needed help only in getting started. Informal feedback from research subjects indicated that the introductions by vignette persons helped to engage their interest. Subjects were also interested in using the interactive options, particularly for the first and second vignettes they judged. Subjects were consistently willing to complete the research process. Most were able to finish within 20 minutes.

In part, the substantive findings were consistent with expectations, but they raised useful substantive and methodological questions. With 60% of subjects recommending moves to retirement communities and 40% recommending that vignette persons remain in their homes, the vignette scenario succeeded in producing variability in recommendations from subjects. As expected, subjects were influenced in their recommendations by the functional status, current housing environment, and the social network of vignette persons. The fact that subjects were not influenced by the features of the retirement communities invites speculation. One possibility is that subjects considered health status, current housing environments, and social networks to be so important that any differences in the attractiveness of the retirement communities was unimportant. Another possibility is that subjects saw no important difference in the attractiveness of the retirement communities. In other words, the differences in the features shown for the two retirement community options were not great enough to make a difference in the eyes of the subjects. The absence of any effects on the financial dimension

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could be explained in similar terms. The dimensions on which subjects discriminated may have been so powerful that the financial dimension was not important enough to make a difference, however it was calibrated. Alternately, there may not have been enough of a difference among the financial options to make a difference from the perspective of respondents. All of the vignette persons were sufficiently financially secure so that they could anticipate leaving a bequest to a survivor. Their selection of a residential option would affect only the amount of the bequest. Subjects might have attached greater importance to the financial dimension if the vignette persons were at some risk of running out of money within a few years, and the residential choice had a significant effect on their ability to avoid insolvency.

Particularly with the financial dimension, we are concerned about the complexity of the information that was presented and the financial literacy of subjects. The limited financial literacy of older people generally has been well documented (Lusardi & Mitchell, 2007). We asked subjects to absorb a good deal of financial information that was presented in text form. Even though we provided an opportunity for subjects to examine the information in a carefully constructed chart, many probably were challenged by the task. On the other hand, our subjects had the option of requesting a simple summary assessment from a financial planner.

An alternate possibility is that the results were affected by the sequence in which the information was presented in the vignettes. In the experiment reported here, information on the retirement community characteristics and financial dimension were presented last. Subjects may have formed their opinions by the time that information was presented on the retirement community and financial dimensions. To address this possibility, we are currently replicating the study with the presentation of vignette content reversed. In the revised experiment, the financial dimension is presented first, and the characteristics of the retirement community are presented second.

We examined the possibility that subjects might have been influenced by the number of vignettes they judged. Accordingly, we examined whether the second, third, and fourth vignettes judged by subjects tended to have different recommendations from the first. We found that the number of vignettes previously judged had no effect on the recommendation on a subsequent vignette. (Data for this analysis are not shown).

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For this experiment, we did not have in place a capacity to record subject use of interactive features. We were able to record only the total amount of time subjects spent participating in the study. In future experiments, we expect to be able to record the extent of use of specific interactive options and the amount of time spent in considering specific vignettes.

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Table 1. Vignette dimensions and levels

Dimensions	Levels	Interactive options
Identity of host	A. Doctor B. Layman	
Vignette person	A. Alice (age 75) B. Jean (age 76) C. Dorothea (age 77) D. Lois (age 75)	
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. Name 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 attractive/challenging houses. B. Lists of features of safe and attractive/challenging houses C. Pictures of name's house
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 name 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

Table 2. Characteristics of subjects (N=124)

Variables	Percentage/mean(SD)
Gender (female)	79.5%
Age	73.1 (7.9)
Race (white)	92.7%
Married	45.1%
Health (self-reported) (Excellent or very good)	53.7%
Household income ($50,000 or over)	52.2%
Usually travels by automobile	87.7%
Lives in retirement community	7.3%
Considering retirement community (non-residents of retirement community)	14.8%

Table 3. Predictors of recommended move to retirement community on the basis of vignette structure

	[1]	[2]	[3]
Doctor Intro	0.048	0.042	0.04
	(0.052)	(0.052)	(0.053)
Jean	0.095	0.09	0.09
	(0.059)	(0.059)	(0.060)
Dorothea	0.111*	0.108*	0.108*
	(0.058)	(0.057)	(0.058)
Lois	0.089	0.09	0.092
	(0.057)	(0.057)	(0.056)
Live Independently with Help	0.132**	0.130**	0.132**
	(0.058)	(0.057)	(0.058)
Needs Help Regularly	0.408***	0.408***	0.409***
	(0.064)	(0.064)	(0.064)
Knows Only a Few People in Nbrhd	0.206***	0.200***	0.202***
	(0.053)	(0.053)	(0.053)
Best Friend Lives in RC	0.143**	0.133**	0.135**
	(0.059)	(0.060)	(0.060)
Friendly Home		-0.149***	-0.150***
		(0.038)	(0.039)
Luxury RC		-0.051	-0.051
		(0.043)	(0.042)
Move yields small increase in discretionary income			-0.08
			(0.057)
Move yields modest decrease in discretionary income			-0.045
			(0.057)
Move yields larger decrease in discretionary income			-0.046
			(0.056)
Constant	0.209***	0.323***	0.363***
	(0.071)	(0.085)	(0.092)
R-squared	0.14	0.166	0.17
N	462	462	462

Baseline variables for which estimates of the correlation between treatment variables (in Table 1) and recommendation to move to a retirement community can be interpreted are as follows: the layman for host identity (Level B in Table 1), Alice for vignette subjects (Level A in Table 1), no difficulty for functional status (Level A in Table 1), knows many people in neighborhood for social network (Level A in Table 1), unfriendly home for current housing quality (Level B in Table 1), popular retirement community for retirement community quality (Level B in Table 1), and move yields $194 increase in discretionary income (Level A in Table 1).

Table 4. Predictors of move to retirement community on the basis of structural variables and respondent characteristics

Female	0.045	Health Status Poor	0.579***
	(0.089)		(0.181)
Age Groupings	0.072	Health Status Good	0.068
	(0.052)		(0.122)
Some College	0.258**	Health Status Very Good	0.121
	(0.111)		(0.095)
2-yr College	0.303**	Health Status Excellent	0.073
	(0.116)		(0.101)
4-yr College	0.115	No. of IADL Problems	-0.012
	(0.112)		(0.025)
Postgraduate	0.198**	No. of Children	-0.014
	(0.087)		(0.014)
African American	-0.086	No. of Children Close By	0.059**
	(0.135)		(0.028)
Widowed	-0.022	No. Friends Close By	0.011
	(0.112)		(0.030)
Divorced/Separated	0.036	Chance of Inheritance: 1-100	0
	(0.122)		(0.000)
Never Married	0.086	Chance of 15 More Years: 1-100	0
	(0.130)		(0.000)
Spouse Disabled	-0.053	Happiness: 1-Not Very to 5-Very Happy	0
	(0.093)		(0.000)
Income Less Than 10k	0.059	Characterize Self as Happy:	-0.021
	(0.166)	1-Not at All to 5-A Great Deal	(0.016)
Income 10-25k	0.08		
	(0.090)	Characterize Self as Sad:	0.022
Income 25-50k	-0.083	1-Not at All to 5-A Great Deal	(0.017)
	(0.070)		
Income 50-75k	-0.013		
	(0.081)		
Constant	0.048		
	(0.193)		
R-squared	0.236		
N	450		

Baseline variables for which estimates of the correlations between respondent characteristics and recommendation to move to a retirement community can be interpreted are as follows: male for gender, no college for education, white and Hispanic for race, single for marital status, $75k+ for income, and health status not reported.

Table 5. Predictors of move to retirement community on the basis of vignette structure and spousal disability among respondents

	[1]	[2]	[3]	[4]
Doctor Intro	0.04	0.027	0.077	0.041
	(0.053)	(0.063)	(0.100)	(0.053)
Jean	0.09	0.165**	-0.041	0.095
	(0.060)	(0.076)	(0.111)	(0.060)
Dorothea	0.108*	0.163**	0.01	0.114**
	(0.058)	(0.071)	(0.097)	(0.058)
Lois	0.092	0.159**	-0.052	0.091
	(0.056)	(0.066)	(0.107)	(0.056)
Live Independently with Help	0.132**	0.117	0.156	0.178**
	(0.058)	(0.071)	(0.103)	(0.081)
Needs Help Regularly	0.409***	0.463***	0.332***	0.337***
	(0.064)	(0.074)	(0.118)	(0.089)
Knows Only a Few People in Nbrhd	0.202***	0.170**	0.246**	0.203***
	(0.053)	(0.069)	(0.092)	(0.053)
Best Friend Lives in RC	0.135**	0.058	0.276***	0.134**
	(0.060)	(0.077)	(0.096)	(0.060)
Friendly Home	-0.150***	-0.193***	-0.095	-0.151***
	(0.039)	(0.049)	(0.062)	(0.039)
Luxury RC	-0.051	-0.06	-0.043	-0.051
	(0.042)	(0.050)	(0.075)	(0.042)
Move yields small inc. in discr. income	-0.08	-0.058	-0.126	-0.079
	(0.057)	(0.073)	(0.092)	(0.057)
Move yields modest dec. in discr. income	-0.045	-0.029	-0.039	-0.044
	(0.057)	(0.071)	(0.109)	(0.056)
Move yields modest larger in discr. income	-0.046	-0.004	-0.122	-0.046
	(0.056)	(0.073)	(0.089)	(0.056)
Live Ind. with Help * Spouse Disabled				-0.074
				(0.082)
Needs Help Regularly * Spouse Disabled				0.114
				(0.083)
Constant	0.363***	0.353***	0.400**	0.361***
	(0.092)	(0.112)	(0.165)	(0.092)
R-squared	0.17	0.219	0.144	0.175
N	462	298	164	462

Instructions for subjects (Text with audio narration)

Throughout this survey, you will become familiar with four hypothetical situations regarding women who are deciding between moving to a retirement community or staying in their current homes. For each scenario, we will introduce you to a woman and describe certain aspects about her life. These aspects include the woman's physical condition, social network, current housing quality, retirement community quality, and financial tradeoffs. For the physical condition, we will provide information from a registered nurse. For the financial component, we will show numbers provided by a financial planner. In considering finances, you should understand that each woman hopes to leave some money as a bequest when she dies. Each woman currently has enough spending money to get by if she uses her money carefully. If she overspends her budget, she will have less money to leave in her bequest.

After viewing information about each woman's situation, we will ask you your thoughts and recommendations regarding her decision to move to a retirement community. Finally, you will be asked to take a quick survey.

Let's begin with Elmer, who has experience living in a retirement community and has a comment about retirement communities that he would like to share with you.

Dimensions

Functional status

A visiting nurse has assessed Dorothea's physical and functional abilities. Dorothea 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. Dorothea has some trouble doing light housework by herself. [Click here to see the nurse's recommendation.](#)

Example of nurse's recommendation

- The nurse has concluded that Dorothea is able to live independently, but she needs some help with household chores.

Current housing (elder-friendly condition)

- Dorothea lives in a house that has many features that make it safe and attractive for an older person. (Watch [an explanation of the features of such a house](#), read the [list of features of such a house](#), or view pictures of Dorothea's house: [outside](#), and [bathroom](#)).

Features of a safe house:

1. Easy access to the interior of the home:

    a. Entry to the home without stairs.

    b. Minimal number of stairs; handrail next to stairs.

2. Living area on one floor including bedroom, bath, kitchen, dining room, living room, and laundry.

3. Bathroom with grab bars, easy access to shower, seat in shower.

4. Good lighting.

5. Minimal maintenance:

    a. Compact size.

    b. New or updated heating, ventilating, and appliances.

6. Open floor plan.

7. Elimination of clutter.

8. Absence of throw rugs.

Current housing (elder challenging)

Features that make a house challenging for older people:

1. Exterior stairs:

    a. Multiple stairs.

    b. Stairs in disrepair.

    c. Stairs without handrail.

2. Living area on multiple floors:

    a. Stairway within home that is steep, poorly lit, and without a railing.

    b. Bedroom on second floor; or only bathroom on second floor.

    d. Laundry in basement.

3. Bathroom without safety features:

    a. Tub, no shower.

    b. Shower in tub, slippery floor, or without grab bar.

4. Dim lighting.

5. Throw rugs.

6. Extensive clutter.

7. Old plumbing, heating, and appliances; frequent repairs required.

Retirement community option

- Dorothea is considering a move to a popular retirement community. (Watch [an explanation of the features of such a retirement community](), read the [list of features of such a retirement community](), or view pictures of the retirement community that Dorothea is considering: [outside](), [lobby](), [dining area](), and [room]()).

Financial considerations

- Dorothea's financial planner has determined that her monthly spending money would decrease by $175 if she moves to the retirement community. Here's how the financial planner came to this conclusion. Dorothea hopes to bequeath $300,000 to her children, relatives, or friends. Assuming that Dorothea will live for 12 more years, the average

expectancy for a woman her age, the financial planner has calculated the maximum Dorothea can spend per month to meet her financial goal: If Dorothea were to stay in her current living arrangement, she could spend up to $920 per month. If Dorothea decides to move into the retirement community she is considering, she could spend up to $745 per month. Thus, the monthly cost to moving is $175. (View how the financial planner arrived at these figures or Click here to see the financial planner's recommendation.)

Example of financial planner's recommendation:

- The financial planner has concluded that Dorothea will be much better off financially if she stays in her current home.

Financial detail

Target Bequest	$300,000	
	Current Living Situation	**Retirement Community**
Real Estate Assets Value of House or Security Deposit	$300,000	$5,000
Liquid Assets Checking, Savings, CDs, Stocks, Bonds less Transaction and Moving Costs	$62,500	$339,500
Monthly Income Social Security, Pension, Interest and Dividends from Liquid Assets	$4,063	$5,448
Fixed Montly Expenses Food, Maintenance or Rental Costs, Property Tax, Supplemental Health Insurance	$3,700	$5,100
Monthly Budget for All Other Expenses (in order to Reach Target Bequest) For Example: Transportation, Clothing, Gifts, Entertainment, Vacation Travel	$920	$745
Effect of Moving on Monthly Budget Moving may increase or decrease the budget for all other expenses. If moving decreases the budget, then moving requires a tighter budget than staying does in order to reach the target bequest.	*Decrease of $175 in the amount available for spending*	

Choice options

1. What would you recommend that Dorothea should do?

- Continue living in her current home

- Move into the retirement community that she is considering

How confident are you of your recommendation?

- 10 point scale from "Just guessing" to "Absolutely sure"

2. What would you do if you were in Dorothea's situation?

- Continue living in your current home

- Move into the retirement community

How confident are you of your choice?

- 10-point scale from "Just guessing" to "Absolutely sure"