WHEN LESS IS MORE: DOWNSIZING, SENSE OF PLACE, AND WELL-BEING IN LATE LIFE

by

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ABSTRACT

The purpose of the present study was to investigate the decision-making process and outcomes associated with downsizing to a smaller home in late life. Using Wiseman’s behavioral model of elderly migration, participants’ reasons for moving (push factors) and reasons for selecting the new residence (pull factors) were explored. It was hypothesized that the relation between push-pull factors and relocation outcomes would be serially mediated by control and sense of place (SOP). Self-report measures of reasons for moving, relocation controllability, SOP, satisfaction with the move, and psychological well-being were examined in a sample of 68 older adults (mean age 72.7 years) who had downsized to a smaller home in the past year. Haye’s PROCESS macro was used to test serial multiple mediator models for each of the relocation outcomes (i.e., satisfaction with the move and six subscales of well-being). Results showed that placing greater importance on push relative to pull factors was associated with lower levels of well-being in three domains: environmental mastery, purpose in life, and self-acceptance. Although SOP discrepancy (i.e., SOP in current versus previous home) was not a significant mediator, the serial mediation model with relocation controllability and current SOP as mediators was significant for move satisfaction, environmental mastery, and personal growth. This suggests that older adults whose downsizing decisions are more strongly influenced by push factors feel less control over relocation, find it more difficult to develop a SOP in the new home, and, in turn, experience lower levels of well-being and relocation satisfaction. These findings can be used to inform older adults’ downsizing decisions and to develop supports for relocating older adults.
LIST OF ABBREVIATIONS AND SYMBOLS

\( a \)  
Cronbach’s alpha: index of internal consistency or reliability

\( b \)  
Unstandardized coefficient: the predicted change in Y given a one-unit change of X

\( CI \)  
Confidence interval: a range of values that is believed to contain the value of an unknown population parameter

\( M \)  
Sample mean: arithmetic average

\( n \)  
Sample size: the number of cases in a given sample

\( p \)  
Probability associated with the occurrence under the null hypothesis of a value as extreme or more extreme than the observed value

\( r \)  
Pearson correlation: measures the linear relation between two variables

\( SD \)  
Standard deviation: an approximation of the average distance from the mean for a set of scores

\( SE \)  
Standard error: measures the statistical accuracy of an estimate

\(<\)  
Less than

\(=\)  
Equal to
ACKNOWLEDGMENTS

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INTRODUCTION

While the home is often viewed as familiar and comforting, it can also be a source of anxiety when it becomes difficult to maintain or navigate in late life (Oswald & Wahl, 2004). For this reason, older adults may decide to downsize to a smaller home. According to data from the Panel Survey of Income Dynamics (PSID), older Americans who decide to relocate tend to move to a smaller residence (Banks, Blundell, Oldfield, & Smith, 2010). However, surprisingly few studies to date have examined the process and outcomes of downsizing. The broader literature on late-life relocation provides evidence for both positive and negative relocation outcomes (Castle, 2001). How older adults respond to relocation may depend on their reasons for moving, perceived control over the move, and sense of place (e.g., Makowsky, Cook, Berger, & Powell, 1988; Ryff & Essex, 1992; Wiles et al., 2009). Research on how these factors affect downsizing is needed to guide older adults’ downsizing decisions and to identify the factors leading to successful relocation.

There is a history of debate in the literature surrounding the outcomes of late-life relocation. Relocation has been associated with negative outcomes, such as morbidity, mortality, and psychological distress (Danermark & Ekstrom, 1990). These negative outcomes have been described as transfer anxiety, transfer stress, translocation syndrome, and, most recently, relocation stress (McKinney & Melby, 2002). In 1992, the North American Nursing Diagnosis Association (NANDA) created the official diagnosis of Relocation Stress Syndrome to describe the anxiety, confusion, depression, and loneliness associated with moving in late life. However, not all studies confirm these negative relocation outcomes. In 1980, Borup, Gallego, and
Heffernan concluded that relocation has positive effects on daily functioning and no negative effects on health. A more recent literature review of 78 studies found either positive or no changes in health following late-life relocation (Castle, 2001). Studies have also shown psychological benefits of relocation, such as an increased sense of security (Choi, 1996), feelings of relief (Iwasiw, Goldenberg, MacMaster, McCutcheon, & Bol, 1996), positive aging (Jungers, 2010), and greater well-being (Kling, Seltzer, & Ryff, 1997).

Instead of simply exploring relocation outcomes, however, Bourestom and Pastalan (1981) explain that it is important to consider under what conditions and with what populations relocation leads to positive or negative outcomes. Numerous factors have been identified that influence how older adults respond to relocation. In 1990, Danermark and Ekstrom identified two factors deserving further attention in the literature: control and the meaning of home. While research has since addressed each of these factors independently, no studies to date have examined how these factors interact to affect relocation outcomes.

Control

Older adults’ perceived control over the decision to move has been thought to impact relocation outcomes. One of the most frequently cited theoretical models of relocation decision-making is Wiseman’s (1980) behavioral model of elderly migration. Wiseman’s (1980) model uses a push-pull framework to describe the factors that motivate older adults to consider relocation. According to the framework, relocation can be triggered by factors that either push individuals away from their current residence or pull individuals towards a new residence (Bekhet, Zauszniewski, & Nakhla, 2009; Wiseman, 1980). Research on late-life relocation has identified common push factors, such as declining health, housing problems, financial problems, loneliness, and safety concerns (Bekhet et al., 2009; Smetcoen et al., 2017). Common pull
factors include availability of services in the new location, a more attractive environment, proximity to family/friends, and not wanting to be dependent on adult children (Bekhet et al., 2009; Smetcoren et al., 2017). While push factors are often used to explain reasons for relocating, pull factors can explain why an individual chooses a particular housing option (e.g., downsizing to a smaller home rather than institutional care).

According to Wiseman’s (1980) model, push and pull factors can also influence the perceived voluntariness of relocation. Relocation can occur voluntarily and after careful planning or suddenly and unexpectedly in response to a health emergency or other crisis (Chenitz, 1983; Oswald & Rowles, 2006). Pull factors are associated with voluntary relocation, as they attract individuals to a given location during relocation planning (Bekhet et al., 2009). Push factors, on the other hand, may be strong enough to overcome the desire to remain in place and lead to involuntary relocation (Wiseman, 1980). The voluntary-involuntary dimension of relocation is directly related to the amount of control individuals feel they have over the decision to move (Bekhet et al., 2009; Schulz & Brenner, 1977). Even among individuals who appear to move voluntarily, there may be differences in the degree to which relocation is perceived as voluntary and controllable (Brown & Perkins, 1992). For example, individuals may feel pressured by others to move or find that certain life stressors make relocation the only viable option. In this way, voluntary relocation occurs when older adults have greater choice and perceive a sense of personal control over the decision to move.

Older adults who move voluntarily tend to fare better than those for whom relocation is involuntary and driven by push factors (e.g., Chenitz, 1983; Iwasiw et al., 1996; Laughlin, Parsons, Kosloski, & Bergman-Evans, 2007; Makowsky et al., 1988). In a study on community relocation of aging women, Ryff and Essex (1992) found that placing greater importance on push
relative to pull factors was associated with reduced well-being. Older adults who move less voluntarily and are less integrated in the relocation transition have also been found to report lower levels of well-being (Rossen & Knafl, 2007). Involuntary relocation has been related to several negative outcomes, such as mortality (Laughlin et al., 2007), depressive symptoms (Rossen & Knafl, 2007), maladjustment (Brand & Smith, 1974; Kasteler, Gay, & Carruth, 1968), decreased relationship satisfaction (Makowsky et al., 1988), and lower quality of life (Rossen & Knafl, 2007). The ability to feel in control of one’s environment has been recognized as a basic prerequisite for well-being (Prager, 1986). As such, the perception of control and the ability to exercise choice over the decision to move have been found to be crucial to post-relocation adjustment (Armer, 1993; Ewen & Chahal, 2013; Porter & Clinton, 1992; Thomas & Hayley, 1991).

Meaning of Home

Relocation outcomes may also be influenced by the meaning that older adults ascribe to both their previous and current homes. After relocation, older adults must adapt to their new environments by recreating a feeling of being ‘at home,’ or a sense of place (Oswald & Rowles, 2006). Sense of place refers to the meaning a person attaches to a spatial setting (Jorgensen & Stedman, 2001). It is thought to be a multidimensional construct, comprising place identity, place dependence, and place attachment (Jorgensen & Stedman, 2001, 2006). According to Proshansky (1978), place identity refers to beliefs that the self is defined in relation to one’s environment (cited in Jorgensen & Stedman, 2001). Place dependence, on the other hand, describes the extent to which a place assists the achievement of behavioral goals relative to other settings (Jorgensen & Stedman, 2006). Finally, place attachment refers to a positive affective bond between a person and a place (Low & Altman, 1992). Older adults are often more attached
to their homes and less willing to relocate than younger adults, having lived and made memories in their homes for a longer period of time (Saunders, 1989). For those who do relocate, however, a sense of place must be reestablished in the new home.

There is evidence to suggest that older adults who move involuntarily find it more difficult to develop this sense of place after relocation. For example, Boğaç (2009) found that Turkish Cypriot refugees who were involuntarily relocated after the war of 1974 still found it difficult to identify with their new homes 34 years later. Although the majority of the relocated refugees were satisfied with their new houses, 90% said that they could not refer to their new houses as ‘home’ (Boğaç, 2009). When asked to draw their ideal home, the refugee settlers drew their former homes while the later generations who grew up after the relocation drew their current communities. Studies examining involuntary relocation due to natural disasters have also found disruptions in place attachment (Brown & Perkins, 1992). After a landslide killed all but 200 residents in the small town of Yungay, Oliver-Smith (1986) found that residents grieved lost place attachments and struggled to recreate a positive identity (cited in Brown & Perkins, 1992). Individuals who relocate suddenly and involuntarily may therefore retain previous place attachments and struggle to form a sense of place in the new residence.

When relocation is voluntary and proactive, however, Brown and Perkins (1992) suggest that individuals can begin to loosen ties to the old residence and establish new ties. In a series of three studies, Wofsey, Rierdan, and Wapner (1979) found that graduating college seniors who had well-articulated plans for moving to a new environment demonstrated greater self-world distancing. These students provided objective descriptions of campus and drew the campus from an aerial view, whereas students with nonarticulated plans drew close-up views with subjective descriptions of the environment (Wofsey et al., 1979). Students with well-articulated plans thus
appeared to be loosening ties to their college in preparation for their moves. In a study of college-bound high school seniors, students also began to loosen ties to their homes while developing new ties by writing to their future roommates and learning more about their future college town (Coelho, Hamburg, & Murphey, 1976). By loosening old ties and preparing for new ones, individuals who relocate voluntarily may be able to prepare themselves to develop a new sense of place.

Developing a new sense of place after relocation may lead to more positive outcomes. While people often experience feelings of homesickness and identity disruption after relocation, these feelings may change after developing a meaningful connection to the new environment (Brown & Perkins, 1992). In a study of university students, Scopelliti and Tiberio (2010) found that place attachment to the new residence was associated with reduced homesickness. Place attachment has also been related to positive outcomes in older adults, such as greater health, functioning, and well-being (Wiles et al., 2009; Wiles et al., 2017). Older adults who report better neighborhood quality and higher cognitive and emotional attachment to their area demonstrate higher levels of life satisfaction as well (Oswald, Jopp, Rott, & Wahl, 2011). After relocation, older adults who are able to form a sense of place in their new environment may therefore experience benefits in health, functioning, and overall quality of life.

Downsizing

In addition to control and the meaning of home, Danermark and Ekstrom (1990) also note that the type of move (i.e., residential or institutional) can impact relocation outcomes. However, little research has explored the outcomes of residential relocation, with even fewer studies examining downsizing specifically. Downsizing has been defined as selling a home and becoming a renter or, more broadly, as moving to a smaller place as either a renter or owner.
(Banks et al., 2010). Consistent with research by Ekerdt and colleagues, the present study defines downsizing as moving to a smaller residence and reducing personal possessions (Ekerdt & Sergeant, 2006; Ekerdt, Sergeant, Dingel, & Bowen, 2004; Luborsky, Lysack, & Van Nuil, 2011). Previous research on downsizing has focused on the disbandment process, where older adults reduce the volume of their possessions (Ekerdt & Sergeant, 2006; Ekerdt et al., 2004). However, Luborsky et al. (2011) found that downsizing is more than simply sorting, saving, and discarding possessions; instead, downsizing is a major transition that evokes a sense of place experience.

In their qualitative study of older adults who had recently downsized, Luborsky et al. (2011) found a connection between time and place in participants’ decisions to downsize. For example, some older adults in the study described their failing physical bodies or diminishing health over time as motivating their decisions to downsize. Cultural life course stages, such as retirement, also guided participants’ decisions. Several participants moved to be closer to family or due to the downsizing needs of their partners. The opinions of local community members often created social pressure for participants to either stay or move. Historical, political, and economic conditions, such as the real estate market, also influenced participants’ downsizing decisions. Another major impetus to downsize occurred when the physical built environment of older adults’ homes no longer accommodated their functional abilities. Finally, the process and timing of the stages of downsizing varied among participants, taking anywhere from three weeks to over two years.

In several instances, these temporal motivations for downsizing were countered by an attachment to the original family home. Luborsky et al. (2011) explained that participants who had lived in their homes for the majority of their lives felt obligated to care for the history and
memories of the home. For this reason, some participants described the move from the family home as difficult, or even “traumatic” (Luborsky et al., 2011, p. 248). Several participants described losses associated with downsizing, such as the loss of the home, possessions, or meaningful relationships. However, other participants viewed downsizing as an opportunity to refashion their lives rather than as a loss or conflict. It therefore appears that the decision-making process, timing, and outcomes of downsizing vary from one individual to the next. However, no quantitative studies to date have explored these interindividual differences in downsizing.

The current study aims to address this gap in the literature by examining interindividual differences in downsizing outcomes. The current literature on relocation outcomes is dominated by studies examining the impact of moving to an institutional setting on mortality (Castle, 2001). However, because residential relocation is thought to be less stressful than other types of moves (Rosswurm, 1983), mortality may not be an appropriate outcome for downsizing research. Mortality has been described as an extreme outcome, requiring large numbers of participants for stable results (Pruchno & Resch, 1988; Rowland, 1977). For this reason, Castle (2001) suggests that research also explore less extreme outcomes, where findings may be more robust. The current study thus explored the outcomes of relocation satisfaction and psychological well-being in the context of downsizing.

In accordance with Danermark and Ekstrom (1990), the current study sought to explore the impact of control and meaning of home on these downsizing outcomes. The concept of control was investigated using Wiseman’s (1980) behavioral model of elderly migration. Although Luborsky et al. (2011) identified several factors involved in downsizing decision-making, downsizing has yet to be explored using a push-pull framework. The first aim of the current study was thus to explore the relation between push-pull factors and relocation outcomes.
According to Wiseman’s (1980) model, strong push factors can lead to involuntary relocation and less perceived control over the decision to move. Control over the decision to move has been found to influence relocation outcomes (e.g., Armer, 1993; Ewen & Chahal, 2013). Meaning of home, defined in the present study as sense of place, has also been related to outcomes such as well-being (Wiles et al., 2009). The second aim of the current study was thus to investigate the mediating roles of relocation controllability and sense of place.

Rather than acting as independent mediators, research suggests that a relation exists between relocation controllability and sense of place. Individuals who relocate involuntarily and with less control have been found to experience disruptions in place attachment, making it more difficult for them to develop a sense of place in their new homes (Boğaç, 2009; Brown & Perkins, 1992). To explore this relation, the current study tested a serial multiple mediator model. It was hypothesized that the relation between push-pull factors and the outcomes of psychological well-being and relocation satisfaction would be serially mediated by relocation controllability and sense of place (see Figure 1). More specifically, individuals with stronger push relative to pull factors were expected to report lower levels of relocation controllability, lower sense of place in the new relative to the old residence, and lower levels of psychological well-being and relocation satisfaction.

Figure 1. Hypothesized serial multiple mediator model
METHOD

Design Overview

The current study used a cross-sectional design to examine the downsizing process and outcomes of older adults who recently relocated to a smaller home. The independent variable was the discrepancy in push-pull factors for moving, and the dependent variables were psychological well-being and relocation satisfaction. The mediators, relocation controllability and sense of place, were linked serially in a causal chain. However, it is important to note that this causal chain was hypothesized based on the literature and could not be established in the present study due to its cross-sectional design. Future longitudinal work will be necessary to establish causality.

Participants

To be eligible to participate in the study, individuals had to be 55 years of age or older and have downsized (i.e., moved to a smaller residence and reduced personal possessions) within the past 12 months. Individuals were excluded who relocated to a nursing home, assisted living, or other institutional setting. To avoid dependency, only one member of a married or cohabitating couple who downsized together was included in the final sample. Where data were available for both members of a couple, one member was chosen at random to be removed from the final sample. Data were collected between September 2018 and June 2019. As interviews could be conducted either in person or over the phone, participants were recruited from across the U.S. This allowed for more geographic diversity in the sample, increasing the generalizability of results and ease of data collection.
Participants were recruited from various retirement communities, senior apartments, CCRCs, and low-income senior housing. Local recruitment sites in Alabama included Capstone Village, Pine Valley Retirement Community, Greenbriar at the Altamont, Live Oak Village, Presbyterian Apartments, and Episcopal Place. Participants were also recruited from Acts Retirement-Life Communities at five different sites: Magnolia Trace (Huntsville, AL), Azalea Trace (Pensacola, FL), Indian River Estates (Vero Beach, FL), St. Andrews Estates (Boca Raton, FL), and Normandy Farms Estates (Blue Bell, PA). Realtors and senior move managers were contacted and asked if they could provide information on the study to their eligible clients. An advertisement was also placed on Facebook targeting older adults who had downsized within the past 12 months. Study flyers were distributed through UA alumni groups, Osher Lifelong Learning Institutes (OLLI), and FOCUS on Senior Citizens of Tuscaloosa. Recruitment also relied heavily on snowball sampling and word-of-mouth referrals.

Of 110 individuals screened, 38 (34.5%) were excluded from the study; 29 did not downsize within the past year, 4 did not respond to contact efforts, 3 did not meet the age criteria, 1 was living in an assisted living facility, and 1 refused participation. Four additional participants were removed from the final sample because data was available for both them and their spouses. The final sample of 68 participants ranged from 55 to 95 years of age ($M = 72.66$, $SD = 9.90$). The majority were female (69%), White (100%), married (52%), and retired (68%). Most participants had a college degree (78%) and denied any difficulty living on their current household income (77%). Participants’ length of residency in the previous home ranged from 12 to 708 months, with a mean of 225.6 months ($SD = 159.6$). Length of residency in the current home ranged from less than one month to 12 months, with a mean length of 4.92 months ($SD = 3.39$). The sample was almost evenly divided on current housing tenure, with 34% owning their
home, 29% renting, and 37% buying into a CCRC. However, nearly all participants \((n = 62, 91\%)\) owned their previous home. The majority of participants lived in Alabama at the time of the study \((n = 25, 37\%)\), followed by Florida \((n = 18, 27\%)\), Pennsylvania \((n = 10, 15\%)\), and Georgia \((n = 5, 7\%)\).

**Measures**

Interviews were conducted with participants to obtain measures of demographics, functional health, downsizing experiences, relocation controllability, sense of place, and psychological well-being.

Demographics. At the start of each interview, participants were asked to complete a demographics form asking for their gender, date of birth, marital status, race, education level, employment status, yearly household income, and ease of living on their income. These demographic factors have been found to influence older adults’ relocation decision-making (Choi, 1996; Pope & Kang, 2010; Smetcoren et al., 2017) and outcomes (Aneshensel, Pearlin, Levy-Storms, & Schuler, 2000). For this reason, demographic factors were approached as potential covariates.

Functional health. Perceived health has also been associated with relocation decision-making (Smetcoren et al., 2017) and well-being (Ryff, 1989) and was thus included as a potential covariate. The RAND 36-Item Short Form Health Survey (SF-36) was designed to measure health status as part of the Medical Outcomes Study (Hays & Shapiro, 1992; Stewart et al., 1992). The SF-36 taps eight health concepts: physical functioning, bodily pain, role limitations due to physical health problems, role limitations due to personal or emotional problems, emotional well-being, social functioning, energy/fatigue, and general health perceptions. Although longer and more comprehensive questionnaires may be more valid, several researchers
have used shorter versions of the SF-36 (Turner-Bowker, Bayliss, Ware, & Kosinski, 2003; Ware, Kosinski, & Keller, 1996). The current study used 6 items from the SF-36 examining physical functioning, role limitations due to physical health, bodily pain, and general health. Items were scored using a range of 0 to 100, with higher scores indicating more favorable health. The measure obtained a Cronbach’s alpha of .84 in the present study.

Downsizing experiences. Participants were also administered a questionnaire designed specifically for the current study with questions related to the downsizing experience (see Appendix A). Items assessed participants’ length of residence in the current and previous home, miles moved, time spent preparing for the move, housing tenure, and total number of lifetime moves. Studies have shown that preparation for the move (Mikhail, 1992; Thorson & Davis, 2000), housing tenure (Ferraro, 1981; Smetcoren et al., 2017), and the distance of the move (Mikhail, 1992; Stimson & McCrea, 2004) can influence relocation decisions and outcomes. Housing tenure and length of residence have also been related to sense of place, with homeowners who have lived in their homes for longer periods of time showing greater attachment (Brown, Perkins, & Brown, 2003; Jorgensen & Stedman, 2006). Individuals who relocate frequently may also develop a sense of place more easily than those who do not (Oswald & Rowles, 2006). These factors were therefore measured and approached as potential covariates in the present study.

The downsizing questionnaire also addressed participants’ reasons for moving to the new residence. Participants were first asked the open-ended question, “Tell me about your decision to move from your previous residence.” This question was designed to encourage participants to think about their relocation decision-making and to gather data on the factors that influenced their decision to move. Participants were then asked to list their top three reasons for moving
from the previous residence (i.e., push factors) and top three reasons for moving specifically to their new residence (i.e., pull factors). Each reason was rated on its importance using a 1 (not at all important) to 4 (extremely important) scale. A discrepancy score was computed by subtracting mean pull scores from mean push scores and adding a constant of 4 to avoid negative scores. Consistent with research by Ryff and Essex (1992), this discrepancy score was calculated to reflect the concept of person-environment fit. High scores indicated a large discrepancy between push and pull factors, suggesting a low degree of fit (Ryff & Essex, 1992).

Finally, participants were asked to rate how satisfied they feel with their decision to move to their current home. This rating of relocation satisfaction used a five-point scale ranging from not at all satisfied (1) to extremely satisfied (5) and was used as an outcome measure.

Relocation controllability. Relocation controllability was measured using the Pressure to Move Scale (PTMS; Smider, Essex, & Ryff, 1996). The PTMS consists of nine items reflecting the extent to which individuals feel pressured to move, either by others or by circumstances. Items are rated on a six-point scale, ranging from (1) not at all to (6) very much. Using a sample of 104 older adults who relocated to retirement communities, Bekhet, Zauszniewski, and Nakhla (2011) demonstrated the reliability and validity of the PTMS. They found the internal consistency of the scale to be adequate, with a Cronbach’s alpha of 0.71. With the exception of two items, they found that homogeneity of the PTMS was supported by item-to-total correlations between .30 and .70. Construct validity was also demonstrated by Bekhet et al. (2011), with correlations in the expected direction with measures of positive cognitions ($r = -.37, p < .01$) and relocation adjustment ($r = -.62, p < .01$).

To reflect the construct of control, two additional items from the Perceived Decisional Control Scale (PDC; Regier, 2013) were used in the present study to supplement the PTMS. For
consistency, items were placed on the same six-point scale as the PTMS. Both the PDC and PTMS items were reverse coded to ensure that higher scores indicated greater control and decreased pressure to move. Items from the PDC were significantly correlated with items from the PTMS, $r = .52, p < .001$. As inclusion of the PDC items increased internal consistency, items from both scales were combined to form a composite ($\alpha = .71$).

Sense of place. The Sense of Place (SOP) scale consists of 12 items measuring individuals’ thoughts, feelings, and behavioral commitments towards their properties (Jorgensen & Stedman, 2001, 2006). The scale was originally developed and tested using a sample of lakeshore property owners in northern Wisconsin ($n = 282$; Jorgensen & Stedman, 2001). In the current study, the phrase “lake property” was changed to “home” in each of the SOP scale items. Each item was rated using a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. After reverse coding three items, higher scores on the SOP scale indicated greater sense of place.

In the present study, participants were asked to complete the SOP scale once while thinking about their current home ($\alpha = .89$) and again while thinking about their previous home ($\alpha = .94$). The SOP scale items were changed to past tense when referring to the previous home. A discrepancy score was computed by subtracting SOP scores for the previous home from those for the current home. To avoid negative scores, a constant of 50 was then added. Higher discrepancy scores indicated greater sense of place in the current home relative to the previous home, suggesting that participants were successful in recreating a new sense of place after relocation.

Psychological well-being. Psychological well-being was measured using the Ryff Scales of Psychological Well-Being (RPWB; Ryff, 1989). According to Ryff (1989), psychological
well-being is a multifaceted construct consisting of six dimensions: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Individuals high on self-acceptance possess a positive attitude towards the self and towards their past. Individuals with positive relations with others report warm, trusting relationships and are capable of empathy and affection. High scores on autonomy reflect self-determination, independence, and the ability to regulate behavior from within. Environmental mastery refers to a sense of competence in managing the environment. Individuals with high levels of purpose in life have goals and a sense of meaning or directedness. Finally, high scores on personal growth indicate openness to new experiences and feelings of continued development.

In the initial validation study of the RPWB (Ryff, 1989), each of these six dimensions was operationalized with a 20-item scale. Each of the scales demonstrated good internal consistency, with Cronbach’s alphas ranging from .86 to .93. Test-retest reliability coefficients over six weeks ranged from .81 to .88 for a subsample of respondents (n = 117). The scales were positively correlated with prior measures of positive functioning (e.g., life satisfaction, self-esteem, morale) and negatively correlated with prior measures of negative functioning (e.g., chance control, depression), suggesting construct validity. While there has been some debate surrounding the factorial validity of the RPWB (Abbott et al., 2006), the original confirmatory factor analyses conducted by Ryff and Keyes (1995) provided support for the six dimensions of psychological well-being.

The current study used the shortened version of the RPWB found in the Midlife in the United States (MIDUS-II; Ryff et al., 2017) survey. This version of the scale consists of 42 total items, with seven items for each dimension of psychological well-being. Response options ranged from (1) agree strongly to (7) disagree strongly. Scores were calculated by summing each
set of items. After reverse-coding the appropriate items, high scores on a scale reflected mastery of that area in the respondent’s life. Cronbach’s alpha for the current study was found to be .50, .74, .53, .73, .70, and .69 for the autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance scales, respectively. The poor internal reliability of the autonomy and personal growth subscales should be noted as a limitation of the current study.

Procedure

After a brief telephone screening, eligible participants were assigned an ID number and scheduled for an interview. All measures were administered orally during a single participant interview. Interviews were conducted at the University of Alabama, participants’ homes, a public location of participants’ choosing, or over the phone. Interviews lasted approximately 30-60 minutes. Informed consent was reviewed with participants at the start of each interview. Written consent was obtained for in-person interviews, whereas verbal consent was obtained for phone interviews. During interviews, research assistants read the items for each of the measures out loud to participants using a standardized script. Response cards listing the response options for each measure were presented to participants in person or via email whenever possible. Responses were recorded by the research assistant on the interview packet and were audio recorded for the open-ended questions on downsizing decision-making. The order of the sense of place measures was counterbalanced, such that participants alternated between receiving the measure on their current home first or the measure on their previous home first.

Data Analysis Plan

Preliminary analysis. All data analyses were carried out using SPSS statistical software. Prior to the main analyses, the assumptions of linearity, homoscedasticity, normality,
multicollinearity, and independence of residuals were tested. There was linearity and homoscedasticity, as assessed by visual inspection of a plot of standardized residuals versus predicted values. Residuals were approximately normally distributed, as assessed by normal probability plots. There was no evidence of multicollinearity based on tolerance and variance inflation factors. Independence of residuals was confirmed by Durbin-Watson statistics. Data were checked for outliers by examining standardized, studentized, and studentized deleted residuals. Hat values and Cook’s distance were examined to check for high leverage points and highly influential points. No outliers were removed from the data, as none of the observed outliers were highly influential. Up to 20% missing data was allowed for each of the measures, and missing data were left blank for analyses. After checking assumptions, multiple linear regression was used to determine which of the potential covariates predicted the outcome variables. Potential covariates were included in a given analysis if they significantly predicted the outcome variable. The final list of covariates is presented in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Covariates</th>
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<tbody>
<tr>
<td>Satisfaction with move</td>
<td>Income</td>
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<tr>
<td>Autonomy</td>
<td>Age; Income</td>
</tr>
<tr>
<td>Environmental mastery</td>
<td>—</td>
</tr>
<tr>
<td>Personal growth</td>
<td>Functional health; Marital status; Sex</td>
</tr>
<tr>
<td>Positive relations with others</td>
<td>Distance moved; Length of residency; Sex</td>
</tr>
<tr>
<td>Purpose in life</td>
<td>Education; Functional health</td>
</tr>
<tr>
<td>Self-acceptance</td>
<td>Education</td>
</tr>
</tbody>
</table>

Note. Covariates were included if they significantly predicted the outcome variable. Income = Ease of living on current household income; Length of residency = months lived in current home
Main data analyses. The Hayes PROCESS macro in SPSS was used for the main data analyses (Hayes, 2018). Model 6 in PROCESS was used to test the serial multiple mediations with push-pull factor discrepancy as the independent variable, relocation controllability as the first mediator, and sense of place as the second mediator. Separate analyses were run for each of the dependent variables (i.e., the six dimensions of psychological well-being and the measure of relocation satisfaction). PROCESS macro uses ordinary least squares (OLS) regression to test the total and direct effects of mediation models. To test the indirect effects, PROCESS constructs bias-corrected bootstrap confidence intervals (Hayes, 2018). A bootstrap confidence interval requires estimation of the indirect effect thousands of times (Darlington & Hayes, 2017). In the current study, we requested 95% bootstrap confidence intervals using 5,000 resamples. Alpha was set at .05 for all analyses.
RESULTS

Table 2 displays means, standard deviations, and intercorrelations for the key study variables. Push-pull discrepancy (i.e., greater importance of push relative to pull factors) correlated negatively with relocation controllability, sense of place in the current home (but not sense of place discrepancy), satisfaction with the move, and three of the six well-being subscales (i.e., environmental mastery, purpose in life, self-acceptance). Relocation controllability was positively correlated with sense of place in the current home (but not sense of place discrepancy), satisfaction with the move, and four of the six well-being subscales (i.e., environmental mastery, personal growth, purpose in life, self-acceptance). Whereas sense of place discrepancy was only correlated with satisfaction with the move, sense of place in the current home positively correlated with satisfaction with the move and three of the six well-being subscales (i.e., environmental mastery, personal growth, self-acceptance). For this reason, after running serial mediation analyses with sense of place discrepancy as the second mediator, analyses were run again using current sense of place as the mediator.

Aim 1: Examining Push-Pull Factors

The first aim of the present study was to explore the relation between push-pull factors and downsizing outcomes using Wiseman’s (1980) behavioral model of elderly migration. The most frequently reported push factor was declining health, or a need for future healthcare for the participant or his/her spouse. Another common push factor was having too much maintenance and/or not needing as much space in the home. Participants also reported moving for financial reasons or because they did not like the location of their previous home. Some reported
Table 2

*Correlations Among Key Study Variables*

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<td>.36**</td>
<td>.30*</td>
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</table>

Note: *n* = 68. SOP = Sense of place. *p* < .05. **p** < .01. ***p*** < .001
functional mobility (i.e., not being able to get around their home) or lack of safety as push factors. Loneliness, or feeling isolated from others, was another frequently cited push factor. Several participants also noted life changes (e.g., becoming empty nesters, loss of a spouse, separation/divorce, job change) as reasons for downsizing.

The most commonly reported pull factor was the attractive location of the new residence. For example, participants indicated that they chose their new residence because it was in a familiar area, near the water, close to work, close to the city/downtown, or near important services (e.g., doctors office, church). Participants were also drawn to their new residence because it was close to family/friends or had a friendly community of people. Another common pull factor was the availability of services and amenities in the new location (e.g., organized activities, transportation, meals, continuing care, maintenance). Other pull factors included affordability, availability, and layout of the home. Finally, participants reported choosing their new residence based on the recommendations of others or the reputation of the community.

Of the seven relocation outcomes investigated, push-pull discrepancy significantly predicted environmental mastery ($b = -5.52, p = .002$), purpose in life ($b = -3.94, p = .01$), and self-acceptance ($b = -3.61, p = .007$). In other words, participants who placed more importance on push relative to pull factors reported lower levels of well-being in these three domains. In accordance with Wiseman’s (1980) model, push-pull discrepancy also predicted relocation controllability for all outcomes, such that stronger push factors predicted less perceived control.

Aim 2: Serial Mediation Analyses

Sense of place discrepancy. The second aim of the current study was to examine the mediating roles of relocation controllability and sense of place. We first tested whether relocation controllability and sense of place discrepancy (i.e., sense of place in the current...
relative to the previous home) serially mediated the relation between push-pull discrepancy and relocation outcomes. All paths for the mediation model are illustrated in Figure 2 and corresponding coefficients are provided in Table 3. The hypothesized indirect effect through relocation controllability and sense of place discrepancy \((a_1d_1b_2)\) was not significant for any of the relocation outcomes. The specific indirect effect through sense of place discrepancy only \((a_2b_2)\) was also nonsignificant for all outcomes. However, the specific indirect effect through relocation controllability only was significant for move satisfaction \((a_1b_1 = -.15, SE = .07, 95\% CI = [-.33, -.04])\), environmental mastery \((a_1b_1 = -1.77, SE = 1.20, 95\% CI = [-5.11, -.20])\), and self-acceptance \((a_1b_1 = -.96, SE = .66, 95\% CI = [-2.72, -.04])\). Thus, individuals who placed greater importance on push relative to pull factors reported less relocation controllability and, in turn, less satisfaction with the move, environmental mastery, and self-acceptance.

**Figure 2.** Serial mediation model including sense of place discrepancy. This figure illustrates the serial mediation model with relocation controllability and sense of place discrepancy as mediators of push-pull factors on relocation outcomes (see Table 3 for estimates).
Table 3

Path Coefficients from Serial Mediation Models Presented in Figure 2

| Path | Move Satisfaction | | Autonomy | | Environmental Mastery | | Personal Growth | |
|------|-------------------|---|-------------|---|-------------------|---|------------------|
|      | b     | SE  | p  | b     | SE  | p  | b     | SE  | p  | b     | SE  | p  |
| a₁   | -4.63 | 2.13 | .03* | -4.54 | 2.18 | .04* | -5.60 | 2.27 | .02* | -5.22 | 2.06 | <.001** |
| a₂   | -0.14 | 3.09 | .97 | 0.10 | 3.07 | .98 | 0.36 | 3.18 | .91 | -0.05 | 3.27 | .99 |
| d₁₂  | 0.06  | 1.86 | 0.36 | 0.12 | 1.75 | 0.50 | 0.22 | 1.75 | 0.18 | 0.16 | 1.95 | 0.41 |
| b₁   | 0.03  | 0.17 | 0.02** | 0.09 | 0.08 | 0.29 | 0.32 | 0.08 | <.001** | 0.05 | 0.07 | 0.41 |
| b₂   | 0.02  | 0.01 | 0.02* | -0.05 | 0.06 | 0.45 | 0.02 | 0.06 | 0.72 | 0.05 | 0.04 | 0.23 |
| c’   | -1.19 | 1.73 | 0.27 | -1.48 | 1.50 | 0.75 | -1.74 | 1.60 | 0.02* | -1.31 | 1.13 | 0.25 |
| c    | -0.34 | 0.18 | 0.06 | -0.86 | 1.44 | 0.55 | -1.52 | 1.68 | 0.002** | -1.64 | 1.08 | 0.13 |

<table>
<thead>
<tr>
<th>Path</th>
<th>Relocation Outcomes</th>
<th></th>
<th>Purpose in Life</th>
<th></th>
<th>Self-acceptance</th>
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<tbody>
<tr>
<td></td>
<td>b</td>
<td>SE</td>
<td>p</td>
<td>b</td>
<td>SE</td>
</tr>
<tr>
<td>a₁</td>
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<td>-5.26</td>
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<td>d₁₂</td>
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<td>0.17</td>
<td>0.20</td>
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<td>b₁</td>
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<td>-3.46</td>
<td>1.53</td>
</tr>
<tr>
<td>c</td>
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<td>1.61</td>
<td>0.23</td>
<td>-3.94</td>
<td>1.50</td>
</tr>
</tbody>
</table>

Note. n = 68. One participant missing data for move satisfaction (n = 67). Covariates presented in Table 1. *p < .05. **p < .01.
Sense of place in current home. For exploratory purposes, we then tested the serial multiple mediator model with current sense of place as the second mediator. All paths for the mediation model are illustrated in Figure 3 and corresponding coefficients are provided in Table 4. The total effect \((c)\) was significant for environmental mastery, purpose in life, and self-acceptance, whereas the direct effect \((c')\) was significant for purpose in life only. The indirect effect through relocation controllability and current sense of place was significant for move satisfaction \((a_1d_{12}b_2 = -.07, SE = .04, 95\% CI = [-.20, -.02])\), environmental mastery \((a_1d_{12}b_2 = -.52, SE = .50, 95\% CI = [-2.22, -.002])\), and personal growth \((a_1d_{12}b_2 = -.41, SE = .28, 95\% CI = [-1.28, -.05])\). The specific indirect effect through relocation controllability only was also significant for move satisfaction \((a_1b_1 = -.08, SE = .05, 95\% CI = [-.23, -.004])\) and environmental mastery \((a_1b_1 = -1.28, SE = .91, 95\% CI = [-3.77, -.09])\). The specific indirect effect through current sense of place only \((a_2b_2)\) was not significant for any of the relocation outcomes.

![Figure 3](image-url)

*Figure 3.* Serial mediation model including current sense of place. This figure illustrates the serial mediation model with relocation controllability and sense of place in the current home as mediators of push-pull factors on relocation outcomes (see Table 4 for estimates).
Table 4

Path Coefficients from Serial Mediation Models Presented in Figure 3

<table>
<thead>
<tr>
<th>Path</th>
<th>Move Satisfaction</th>
<th>Autonomy</th>
<th>Environmental Mastery</th>
<th>Personal Growth</th>
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<tbody>
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<td>Move Satisfaction</td>
<td>Autonomy</td>
<td>Environmental Mastery</td>
<td>Personal Growth</td>
</tr>
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<td>(d_{12})</td>
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<td>.11</td>
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<th>Purpose in Life</th>
<th>Self-acceptance</th>
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<td>(c)</td>
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*Note. n = 68. One participant missing data for move satisfaction (n = 67). Covariates presented in Table 1. *p < .05. **p < .01.
DISCUSSION

Summary and Conclusions

The purpose of the present study was to investigate the decision-making process and outcomes associated with downsizing to a smaller home in late life. More specifically, the aims were 1) to explore the relation between push-pull factors and relocation outcomes (i.e., psychological well-being and relocation satisfaction) and 2) to examine the mediating roles of relocation controllability and sense of place. With regard to the first aim, placing greater importance on push relative to pull factors was associated with lower levels of well-being in three domains: environmental mastery, purpose in life, and self-acceptance. However, contrary to our hypotheses, relocation controllability and sense of place discrepancy did not serially mediate these associations. Examining these mediators independently revealed that relocation controllability significantly mediated the relation of push-pull discrepancy to move satisfaction, environmental mastery, and self-acceptance. This suggests that having stronger push relative to pull factors decreases perceived control over the move, which in turn decreases satisfaction with the move, mastery of the environment, and positive attitudes towards the self.

Additional exploratory analyses investigated sense of place in the current home, rather than sense of place discrepancy, as a mediator. The serial mediation model with relocation controllability and current sense of place as mediators was significant for move satisfaction, environmental mastery, and personal growth. In other words, individuals with stronger push relative to pull factors reported less control over their move, less sense of place in the new home,
and, in turn, less satisfaction with their move, competence in managing the environment, and feelings of personal development.

Overall, the results of the present study establish Wiseman’s (1980) behavioral model of elderly migration as a useful framework for investigating downsizing in late life. Participants’ push and pull factors for downsizing were consistent with those identified in other studies on late-life relocation (Bekhet et al., 2009; Smetcoren et al., 2017). Placing greater importance on push relative to pull factors was associated with reduced well-being, consistent with findings by Ryff and Essex (1992). This suggests an association between the factors driving the initial decision to downsize and the outcomes of the move. In support of Wiseman’s (1980) model, push and pull factors were also found to influence the perceived voluntariness of relocation (i.e., relocation controllability). Relocation controllability significantly mediated the relation between push-pull discrepancy and relocation outcomes, providing support for previous research linking control to post-relocation adjustment (e.g., Armer, 1993; Ewen & Chahal, 2013; Porter & Clinton, 1992; Thomas & Hayley, 1991).

Additionally, our findings expand on Wiseman’s (1980) model by connecting push-pull factors and relocation controllability to sense of place. Although sense of place discrepancy was not a significant mediator, control and current sense of place serially mediated the relation between push-pull factors and downsizing outcomes. This suggests that relocation controllability facilitates the development of sense of place in the new home, irrespective of the individual’s previous sense of place. According to Brown and Perkins (1992), individuals who relocate voluntarily can begin to loosen ties to the old residence and establish ties to the new residence. However, the current findings emphasize the importance of developing a new sense of place over loosening ties to the previous home. Participants with stronger sense of place in the new home
demonstrated more positive relocation outcomes. This supports research by Wiles et al. (2009, 2017) relating place attachment to greater health, functioning, and well-being in older adults.

It should be noted, however, that significant direct and indirect effects were only found for select relocation outcomes. For example, there were no significant direct or indirect effects for autonomy or positive relations with others. Ryff and Essex (1992) also failed to find an effect of push-pull discrepancy for these two subscales, suggesting that reasons for moving have little influence on interpersonal relations and feelings of self-determination. However, it is also possible that these noneffects reflect problems with measurement or research design. As noted by Ryff and Essex (1992), the measures of push and pull factors were limited to three items, which may not sufficiently capture the complexity of relocation decision-making. For this reason, participants’ qualitative responses to the open-ended question on downsizing decision-making will be examined in future studies. Future research should also examine push and pull factors independently to parse out these effects. The current study investigated push-pull discrepancy to operationalize person-environment fit using a push-pull framework; however, it is likely that push and pull factors have unique effects on relocation decision-making and outcomes.

Additionally, our research design required retrospective report of relocation decision-making. This design can lead to retrospective fading of self-reports and is unable to determine causal directionality. Despite our hypothesized directionality, as noted by Ryff and Essex (1992), it is possible that individuals with high psychological well-being interpret their relocation experiences more positively. Longitudinal research is therefore needed to assess push-pull factors throughout the decision-making process, followed by post-relocation outcomes. Future research may also benefit from controlling for alternative dimensions of SES, such as financial assets. Research suggests that financial assets become more important relative to other indicators
of SES, such as income and education, in late life (Robert & House, 1996). Finally, the poor internal consistency of the autonomy and personal growth subscales may have influenced our findings and should be noted as a limitation.

Other limitations relate to the diversity of our sample and generalizability of results. The current sample, although geographically diverse, was predominantly White, upper-class, and highly educated. Many of the study participants were recruited from University of Alabama alumni groups or Acts Retirement-Life Communities, which attract individuals from these demographics. Although recruitment efforts targeted a diversity of settings, including low-income senior housing, recruitment of low-SES and minority racial and ethnic groups posed a challenge. As such, the present findings may not be generalizable to these groups. Future research should examine the process and outcomes of downsizing in a more diverse sample, including a wider range of racial/ethnic and SES backgrounds.

Implications

Although older adults who relocate tend to downsize to a smaller residence (Banks et al., 2010), the present study is one of the first to examine the process and outcomes of downsizing in late life. Previous research on downsizing largely focused on the reduction of possessions (Ekerdt & Sergeant, 2006; Ekerdt et al., 2004). However, Luborsky et al. (2011) found that downsizing is more than decluttering, representing a major transition that evokes a sense of place experience. Our findings suggest that the decision to downsize influences not only sense of place but also relocation satisfaction and psychological well-being. These results reinforce the characterization of downsizing as a critical life course transition.

To facilitate this transition, the results of the present study can be used to inform older adults’ downsizing decisions and to develop supports for relocating older adults. For example,
our findings suggest that altering push and pull factors may improve relocation outcomes. If older adults are encouraged to plan proactively for downsizing, thereby increasing pull factors, this could lead to greater relocation satisfaction and overall well-being. Alternatively, relocation outcomes may be improved by increasing older adults’ perceived control over relocation and/or sense of place in the new home. It is therefore important for older adults to exercise choice over their decision to move. Although family members and friends may facilitate the downsizing process, extensive pressure from these sources may be detrimental to older adults’ relocation outcomes and well-being. To target sense of place, older adults may also consider decorating the new space with familiar objects and sentimental possessions that encourage feelings of attachment.

Resources to aid the relocation transition can also be made more widely available. For example, companies exist that assist older adults throughout the downsizing process with selling their homes, reducing and moving possessions, and planning their new space. Realtors can apply for a Senior Real Estate Specialist designation, taking a course to learn more about the needs of older adults when buying and selling their homes. Unlike traditional moving companies, senior move managers can also provide specialized resources and expertise related to relocating older adults. These services may help older adults to exercise control over the downsizing process, develop a new sense of place, and ease the relocation transition.

Overall, our findings suggest that downsizing is a major life transition that influences older adults’ psychological well-being in multiple domains. According to Bourestom and Pastalan (1981), it is important to consider under what conditions and with what populations relocation leads to positive or negative outcomes. The results of the current study suggest that downsizing may lead to more negative outcomes in older adults who are driven by push factors,
feel less control over the move, and have difficulty developing a new sense of place. Using available services to target relocation controllability and sense of place may therefore improve the outcomes of downsizing in late life.
REFERENCES


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APPENDIX A

Downsizing Questionnaire

1. How long have you lived in your current home? ____________ months

2. How long did you live in your previous home? ____________ months

3. Approximately how many miles is your current home located from your previous home? ____________ miles

4. How many times have you moved throughout your life? ____________

5. Do you own or rent your current home? ____________

6. Did you own or rent your previous home? ____________

7. What is the approximate square footage of your…

   current home? ____________  previous home? ____________

8. Approximately how long did you spend preparing for the move to your current home?

   < 1 month  1-3 months  3-6 months  6-12 months  1-2 years  2+ years

9. Tell me about your decision to move from your previous residence. <begin audio recording>

   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

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10. Please list the top three reasons you decided to move from your previous residence. Rank the importance of each reason in your decision to move.

Reason 1: __________________________________________________________________________

1 2 3 4
Not at all important Slightly important Moderately important Extremely important

Reason 2: __________________________________________________________________________

1 2 3 4
Not at all important Slightly important Moderately important Extremely important

Reason 3: __________________________________________________________________________

1 2 3 4
Not at all important Slightly important Moderately important Extremely important

11. Please list the top three reasons you decided to move specifically to your new residence rather than another location. Rank the importance of each reason in your decision to move.

Reason 1: __________________________________________________________________________

1 2 3 4
Not at all important Slightly important Moderately important Extremely important

Reason 2: __________________________________________________________________________

1 2 3 4
Not at all important Slightly important Moderately important Extremely important

Reason 3: __________________________________________________________________________
12. Overall, how satisfied do you feel with your decision to move to your current home?

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all satisfied</td>
<td>A little satisfied</td>
<td>Somewhat satisfied</td>
<td>Very satisfied</td>
<td>Extremely satisfied</td>
</tr>
</tbody>
</table>
NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE: August 20, 2018
TO: Costlow, Kyreten, Alabama Research Institute on Aging/Psychology
    Connors, Frances, Psychology; Parmelee, Patricia, Alabama Research Institute on Aging / Psychology
FROM: Graham, Jeanelle, MPH, Research Compliance Specialist, NM Expedited
PROTOCOL TITLE: When Less Is More: Downsizing, Sense of Place, and Well-Being in Late Life
FUNDING SOURCE: NONE
PROTOCOL NUMBER: 18-06-1200
APPROVAL PERIOD: Approval Date: August 13, 2018

The Institutional Review Board (IRB) for the protection of human subjects has reviewed the protocol entitled: When Less Is More: Downsizing, Sense of Place, and Well-Being in Late Life. The project has been approved for the procedures and subjects described in the protocol. This protocol must be reviewed for renewal on a yearly basis for as long as the research remains active. Should the protocol not be renewed before expiration, all activities must cease until the protocol has been re-reviewed.

If approval did not accompany a proposal when it was submitted to a sponsor, it is the PI's responsibility to provide the sponsor with the approval notice.

This approval is issued under University of Alabama's Federal Wide Assurance 00004939 with the Office for Human Research Protections (OHRP). If you have any questions regarding your obligations under Committee's Assurance, please do not hesitate to contact us.

Please direct any questions about the IRB's actions on this project to:

Graham, Jeanelle

Graham, Jeanelle

Approval Period: August 13, 2018 through August 12, 2019
Review Type: FULLBOARD
IRB Number: 03