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Examining the life course sequence of intending to move and moving

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Abstract

There is now a substantial body of research which examines the process of making decisions about moving. The questions of interest in that work and in this study using US data are, first, how do life course changes get translated into intentions to move, and second, to what extent are intentions realized or unrealized. This study extends previous work by considering a longer interval in the planning process, and by examining how life cycle changes create intentions, which in turn are translated, or not, into actual moves. We study the antecedents of the expressed intention to move and the outcomes which follow the expressed intention to move. We test the process of forming intentions and moving in the context of life course events and changes. We find that the subset of variables which create the intention to move vary subtly from the variables which create moves, though the triggering effects of family composition change are critical dimensions of both creating intentions and fulfilling those intentions by moving.

Keywords

intentions; life course; mobility; longitudinal data

Introduction and thesis

Previous research has documented how intentions to move are a relatively good predictor of subsequent mobility. In several recent studies approximately two thirds of those who expressed a strong likelihood of moving, follow up that intention with an actual move (representative examples include DeGroot et al. 2011a, 2011b; Coulter, et al 2012; Coulter 2013). The intention to move, as for mobility itself, varies by age. Both decline with age but the decline for those with a strong intention to move is much less steep. Clearly, those who know they want to move are finding ways to follow up with a change of residence. For this study we want to understand the process leading up to the intention to move and how that intention is intertwined with the life course.

Most studies now embed the process of residential mobility and the intentions to move in the larger conceptual structure of the life course and the way in which life course events create

the desire to move. The research to date has shown that demographic contexts (family structure), union formation and dissolution (family change), and to a lesser extent, neighborhood contexts, all play a role in whether or not a household will move (see amongst many studies Clark and Dieleman,1996; Clark, 2013; Dewilde, 2008; Kley, 2015, Mulder and Wagner, 1998, Mulder and Wagner, 2012; Mulder and Malmberg, 2014; Michelin et al., 2008). A recent summary of research stresses how living arrangements are at the core of decisions about where to live and when to move (Aybek et al., 2014). Unanticipated events too, either within the family or external to it, also play important roles in creating residential change (Coulter et al., 2011; Clark and Lisowski, 2016; Clark, 2016).

Invoking the life course is a way of contextualizing the formation of desires, intentions and expectations, and how they play a role in the process of residential change. The ongoing life course decision making process is one about decisions to get married, decisions about fertility and decisions about where to work and where to live. These big life decisions, getting partnered, having children, where to live, and changing jobs can all be precursors to changing locations. In other words, the desire to move and the intention to move are bound up with a whole range of intentions and are not taken in a vacuum, but rather the desire or intention is formed along with a range of desires and intentions about the wider sphere of family formation, living arrangements, and changes in family structure, where to work and all the exogenous forces which weigh in on individuals and families.

While we have a good idea of how intentions (albeit defined quite differently across the studies) do or do not get translated into moves, we know much less about how intentions are formed. None of the papers to date, with the exception of the preliminary ideas in Kan (1999) with data that is now three decades old, has examined the pre-intention and post-intention structure. In this paper, therefore, we develop a model to investigate how an intention (or a desire) to move might be created by previous events. In the models to date the explanatory process has been to identify those with some level of intention and who move and to investigate the variables which can be identified as explanatory measures of the conditional probability of moving given an expressed intention. But in these models we do not have an independent measure of the role of previous intention—that is, intention prior to the window in which those with a strong intention actually moved or did not move. The thesis in this paper is, that considering the window during which intentions are formed (in our case a two-year window), in addition to the subsequent window during which intentions are or are not translated into mobility, will take us further along the path of understanding residential change.

The work by Kley (2016) of the ways in which considering, planning and moving are interrelated, and the work by Coulter et al. (2011), which shows the subtle differences between desires and expectations and mobility, have provided a context for the present paper. Our aim is to broaden those approaches to the mobility decision making process by modeling the creation of intentions. What goes into the creation of intentions to move, what are the demographic contextual factors embedded in the formation of intentions? In other words, we wish to broaden the focus to include the period in which the intentions are formed, while continuing to examine the role of intentions in the period after they are formed. In Figure 1 we capture this process across the window in which the intention is

formed (on the left side of the diagram) followed by the window in which intention is acted upon (on the right side of the diagram). Windows of 2 years have been used in studies of mobility and fertility which of course is one of the important relationships in thinking about moving as Clark and Davies Withers (2007) and Ermisch and Steele (2016) show.

Although the actual residential move occurs at a point in time, the thinking about moving and planning a move is a longitudinal process that is coincident with an ongoing set of decisions about how to live, with whom and where to live. We wish to turn attention from the often single-year event of moving or not, to a multi-year spell in which we examine these processes well before the actual move. Of course moving can and does occur as an immediate response to unanticipated changes, changes which we will examine in some detail, but for others the move is part of the process of change in the life course as we have developed in these introductory remarks. Owners, in particular, for the most part move only with considerable thought and planning.

The thesis we test, using data from the Panel Study of Income Dynamics, for the United States is that intentions are formed in a prior window as a result of current situation (age, marital status, economic situation, labor force participation), changes in those situations, and ongoing mobility behavior. We examine the predictive power of status and changes in status for their explanatory power in the following window when we can examine moves conditioned on intention.

We structure our analysis in a format similar to the Kan (1999) presentation by modeling the intention of a move and then the mobility based on intention.[1] We do so by replicating previous studies of the conditional model of mobility: that is, of a move conditional on prior intentions. This model design derives from the observation in the discussion above that we want to understand what is going into the creation of desires and intentions to move. In effect we are estimating how intention is created by family contexts and events. We recognize that attachment and satisfaction likely reduce the intention to move but these variables are not available in our data. To emphasize the life course context, our approach is modeled on the notion of successive windows $[t_{-1},t_0]$ in which intentions are created, then measured at time t_0 and in a second window $[t_0,t_{+1}]$ either are translated into moves by t_{+1} or are not. In addition, we examine those who had very low intentions to move but made, in Kan's terms, unexpected moves.[2]

Surveys providing secondary sources of mobility data have variously asked respondents if they think they might move (Panel Study of Income Dynamics, US), if they expect to move (Understanding Society, UK), or how likely is it that they will move in the next year (Household, Income, and Labor Dynamics in Australia), and there is an implication that these questions are getting at some form of intentions or expectations. We can think of the difference between them as a household having an intention to move or having an expectation that they will move in the next year, but clearly these are interrelated. Others

[1]The question in the Panel Study of Income Dynamics, is "do you think you might move" and a yes is called an expectation by Kan (1999).

[2]Unexpected moves can include those which occur for example in response to evictions, the death of family members and sudden loss of income.

have also noted that intentions can include obligations and necessity. However, in reality surveys seldom ask these questions separately and we have to work with questions which are only proxies for intentions and expectations. The variable measures are illustrated in DeGroot et al (2011a) where “do you want to move in the next year” (desire) is treated as a measure of intention and in the present study where we use the response to “how likely is it that you will move”. From our perspective and following Kleinhans (2009), none of these questions are exact measures of intentions or expectations but they are measures of a general tendency to plan to move. Ideally, we would have a two stage question, but thus far such an approach has not been available in national surveys.

Previous work on intention to move and mobility

Research on intentions and mobility continues to develop through exploration of the underlying dimensions of mobility and its outcomes across neighborhoods and communities. The ideas are discussed across a range of publications including the initial formulations in Moore (1986), Lu (1998) and Kan (1999) followed up more recently by the papers we have already cited (DeGroot et al., 2011a, 2011b; Coulter et al., 2011; Coulter, 2013; Kley, 2015; and Clark and Lisowski, 2016). While there are similar findings across these studies there are also important differences depending on the national context and the nature of the sample.

The research by Kan (1999) using the Panel Study of Income Dynamics, which is also at the core of this study, emphasized that the expectation of a move and actual mobility are part of an ongoing process, that even households that we think of as quite settled do have an ongoing evaluative process of considering their current location and whether it continues to fulfill their housing and more generally their locational needs. As the needs for access to jobs, to schools and to neighborhood amenities change, the likelihood of moving changes too. As Kan noted, households do not just move when needs change, they evaluate their situation and may adjust where they are and consequently they are unlikely to move immediately. However, the other side of this perspective is that unanticipated events can trigger immediate moves to deal with a crisis.

The study by Kan (1999) and the follow up studies by DeGroot et al. (2011a, 2011b) established important labor market interactions with the decision to move, a finding which is consistent with Clark and Davies Withers (1999) who linked decisions to move to job changes, even for local residential moves. But it is not just volitional job change that matters, interruptions in the labor force—getting laid off or fired—also created intentions and mobility, as does moving in and out of employment. In turn some of these decisions affect partnering and the likelihood of staying in homeownership (Feijten, 2005).

Kan used the same dependent variable that is used in this study, “Do you think you might move in the next couple of years”. He evaluates the expectation to move, and then the expectation to move and the move. He finds what are standard interpretations of mobility behavior, negative roles for age and income (younger and lower income households are more likely to intend and to move), and positive role for head’s education in the process of considering a move. It is his identification of transaction costs for ownership which

advanced our thinking of how ownership interacts with residential change. He drew attention to the way in which the feasibility issue comes to the fore in translating wishes and desires into residential moves. In the terms used by Kan, owners have much greater transaction costs than renters. Indeed, homeownership creates strong financial ties to the home as Helderman et al. (2006) point out. Thus homeowners have overall lower mobility rates than renters even if they have a plan to move.

The finding about transaction costs was also central in Lu's (1998) study of intentions using data from the American Housing Survey. The level of consistency in the intention and the decision is quite different between owners and renters. The likelihood of an unexpected move for renters was about four times greater than for owners. And, renters who intend to move are much more likely to follow up with a move: 61 percent of renters versus only 25 percent of owners. As Lu notes it is the lower transaction costs for renters and the fact that they have much lower attachment to their neighborhoods and are consequently much more mobile in general.

The issue of whether people move when they say they intend to, which is Lu's central question (based on the theory of reasoned action), is also central in the Kley (2011) research on considering and planning moves, and the Coulter et al. (2011) work on wishes and desires and expectations. And, the ideas were initially explored by Sell and DeJong (1983). Several other studies have explored the correlates of thinking about moving (in Drinkwater and Ingram's (2009) terms –willingness to move) and expressions of wanting to leave the neighborhood as in VanHam and Feitjen, (2008). As Coulter (2013) points out, wishful thinking is not always translated into action, and the translation is related to the strength of their intention and the resources and opportunities that are available. Clearly, all the desire in the world cannot be translated into a move without economic resources, and similarly the lack of desire to move can be overcome by exogenous events.

The issue of the general desire to move and a strong desire to move was explored in detail in the DeGroot et studies (2011a, 2011b). The specific measure was whether someone "wants to move" – broadly interpreted as an intention (DeGroot et al., 2011a). The fact that the results are in the main consistent with the Kan (1999) and Lu (1998) studies where young people are more likely to want to move, and actually move, than are older households, suggests that whether we measure a question of desires, intentions, or expectations, they are all getting at the underlying general propensity to think about moving (Kleinhans, 2009). Ownership reduces the desire and the likelihood of moving and for those with stronger intentions the likelihood of actually moving was greater. The studies like the Coulter (2013) analysis showed that resources (income) mattered and that the desire to change tenures was a strong explanation for the moves.

Replication using Australian data re-examined the general and strong intentions to move and evaluated a similar set of predictor variables as in the studies already discussed (Clark and Lisowski, 2016). Amongst those with a strong intention to move it is clearly mobility related to union formation and having the resources to effect the move, that are the critical dimensions of how intentions are formed and translated into mobility. The study also showed that there are modest effects of higher levels of satisfaction with housing and

community for those who did not intend to move. However, unlike most of the other studies, the research with the Australian data does not find significant effects for income or education. It may be that the higher Australian mobility rates or the more extensive owner opportunity set has lessened the effect of income and education, but whatever the underlying explanation it reminds us that we have some way to go to generate a consistent model of intentions and mobility.

Data Selection and Model Design

We use data from the Panel Study of Income Dynamics (PSID), an ongoing longitudinal project that follows the lives of a sample of American families. Begun in 1968, as the members of sample families form economically independent households, they are interviewed separately, increasing the size of the sample over time. (McGonagle et al., 2012; Institute for Social Research, 2015a, 2016). The research uses a subset of the PSID data from the 1997 to 2013 waves, during which the survey was fielded biennially, for a total of 9 waves of data. Within these waves, we limit our data to the nationally representative sample established in 1968 with 9,481 individuals in 2,930 households, evolving by 2013 to 14,526 individuals in 5,450 households. Because we model the actions of family units (single individuals and couples, with and without children), and because the PSID links most family unit data with the head, we select the family unit head, as identified by the PSID[3], to represent his or her family unit. Following the structure shown in Figure 1, we model intention formation and response in three successive interview waves, for example, intentions form between the 2005 and 2007 waves, and the response occurs between the 2007 and 2009 waves. Our 9 waves of interview data from 1997 through 2013 yield up to 7 observations of each family unit forming and acting on intentions—from 1997/1999/2001 through 2009/2011/2013.

With large panel datasets, data loss from respondent attrition and skipped waves, and from missing values for individual items, are a matter of concern. McGonagle et al. (2012) and Institute for Social Research (2015a) discuss these issues in the context of the PSID. The combination of a high response rates, good results with re-contact attempts for households missing in the previous wave, and the self-refreshing nature of the sample growing through the inclusion of households “split off” from existing members of the sample all combine to maintain the representativeness of the sample. While we exclude observations with missing values for any of the variables used in the modeling, these amount to about 6% of otherwise available observations, and use of multiple imputation techniques do not seem warranted for this small group. In the end, we have 28,252 observations that meet our criteria for inclusion.

While we discuss our models in detail below, we start here at a broad summary level. Each observation covers a span of three successive waves of data (in Figure 1, t_{-1}, t_0, and t_{+1}), and we will construct logistic regression models for the formation of an intention to move

[3]“The definitions and terminology used to describe the PSID sample were adopted from the Census Bureau in 1968 and, although dated, are maintained for consistency and for their straightforward following rules. … In a married-couple family, the Head is defined as the husband—unless he is physically or mentally incapable of being interviewed. The Head can also be a single female.” (McGonagle et al., 2012). Since most of our modeling data is at the family unit level, this bias toward the male as head does not substantially affect our data.

expressed at the time of the second wave (t_0), and, given intention, for the execution of a move at the time of the third wave (t_{+1}). In doing so we deal with the statistical consequences of panel data having repeated observations of the same individual at multiple times by including a random effect at the panel level. And similarly, to deal with secular changes affecting mobility over time, we include a fixed effect for each period (1997–2001–1999–2003, …). In reporting the results from our logistic regression models, we include separate tests of significance for the model variables, for the fixed effects, and for the random effects. We also report a Nagelkerke pseudo R squared, using it to compare the explanatory power of the full model with that of a model having only the fixed and random effects.

We measure intention to move using the responses to two questions (Institute for Social Research, 2015b). Question A51 asks if the head might move in the next couple of years (in essence are they thinking about moving), with possible answers yes/might/maybe and no). Question A52, which was asked only of those who did not respond no to A51, tries to assess the likelihood of the move, with possible answers definitely will move, probably will move, or more uncertain. We combine the responses into a categorical variable with four categories for the expressed likelihood of moving – definitely, probably, uncertain, no intention.

We have to confront an important issue as we take up a discussion of the mobility planning process: how to define and interpret the different conceptualizations of desires, intentions, plans and expectations. All these terms have been employed at various times and this research faces the same issues. Kley (2016) draws a distinction between considering moving (thinking about), planning a move, and moving. This approach fits with the notion of the formation of intentions as an ongoing process in which there is a considering phase (considering getting married, considering taking a new job, considering moving) which involves evaluating the two dimensions of desirability and feasibility (Kley and Mulder, 2010). In this approach considering precedes forming an intention (or expectation) of moving but of course the process is tempered by feasibility, which we can think of as a set of constraints, from social constraints (proximity to extended family) to economic (housing affordability) and contextual (living near a school or church). The translation of evaluating and thinking about a move to intending to move in some immediate interval implies they have gone through a considering phase.[4]

Mobility is not simply measured since the PSID focuses on household mobility rather than individual mobility. Question A49 asks whether the head lived anywhere else since the previous wave (and thus had moved at least once between waves). There is no similar question for other members of the household. For households with the same head and spouse (if present) in successive waves this works well. For households newly formed or dissolved between waves (fewer than 8% of the households) this will in some circumstances complicate the assessment of mobility. For example, a single female head of household who in the following wave has become the spouse of a male head of household will not then be

[4]A perceptive comment by a reviewer reminds us that intention to move is still largely drawn from responses to a simple question about desires or plans. Clearly, respondents can have a range of responses to this question but only detailed multi-question surveys of plans will allow us to further unpack this problematic area.

asked whether she moved. Rather than exclude such cases, which disproportionately involve female heads of households, and hence are not reasonably treated as missing at random, we inferred whether or not a move occurred, taking into consideration the other information about the households in the two waves. In the example, if the male head of the new household did not move, we can reasonably infer that the former single female household head moved into the household.

Mobility is strongly age dependent and the well-established finding is replicated in Figure 2, which shows the relationship between age and mobility in our entire population, as well as separately for the four categories of intent to move. The results are important for our overall approach to understanding intentions and outcomes. The plot of the overall mobility rate reiterates the expected decline in mobility with increasing age, but with the additions of intentions we can provide some greater understanding of how intentions matter. Disaggregating the mobility rate by the level of intention shows largely expected results, as the mobility rate at all ages increases with increasing expressed likelihood of moving. Relative to the overall mobility rate, those who indicated they intend to move are consistently higher and those who do not intend to move are consistently lower. Households who state a strong intention to move ("definitely will move") stand somewhat apart, with mobility that, rather than smoothly declining with age, slowly declines and then after the retirement/pre-retirement 55–60 age rises slightly and levels off. Overall, these are the "planners" who will re-appear in our second model of the mobility intentions.

The age/intention relationship found in Kan (1999) and graphed in Coulter et al. (2011) is replicated in Figure 3. We can draw a strong distinction between those who express an intent not to move and the other three levels of intent. The percentage of those who intend not to move increases steadily with increasing age and by ages in the late 30s accounts for nearly 70 percent of our population. By contrast, the percentage of those who intend to move or are uncertain decreases steadily with increasing age. The same inflexion point, ages in the late 30s, also shows up for the respondents who have definite intentions to move. Those intentions fall steadily with age and by the late 30s are nearly indistinguishable from the more probably will move and the more uncertain.

To explain intention and mobility conditional on intention we select a set of predictor variables to parallel the previous models of intention and mobility, particularly the Kan (1999) analysis of expected and unexpected mobility using the PSID. These variables include the head's age (and age squared), gender, ethnicity, education, and labor force status; and the household's family status, size, housing tenure (owner/renter) and income. These variables replicate those in Kan and are the central variables in residential mobility studies. For the intent models these are measured at the first of the three waves the observation comprises (t_{-1} in Figure 1), so they precede the formation of intent measured at the second wave. For mobility models they are measured at the second wave (t_0), preceding the execution of a move. We also measure "disruptive events" occuring between waves of the survey. These include both changes in family status—couple formation, separation, widowhood and births —and changes in employment status—job change (changing employers), firing, or losing employment. For intention models these are measured at the second wave (t_0), so they measure the events in the two years during which the intent was

formed. For mobility models these are measured at the third wave (t_{+1}), so they measure events in the two years during which the move occurred.

As we have data on whether there was a move between the first wave and the expression of intent at the second wave, we add this to the models for intent to estimate the impact of moving between the first and second waves on intent measured at the second wave. And, in one version of our model of mobility given intent to move, we add the strength of intent at the second wave as a predictor.

The explanatory variables can be grouped into three broad classes – those which describe the household (its composition, status, and head's characteristics); those which pertain to the housing and labor markets (tenure and previous mobility, labor force status); and those which capture the life change events of marriage, births, divorce and separation.

As the summary measures show, age, tenure and disruptive event variables are critical components of understanding intention and mobility conditional on intention (Table 1). Younger singles and families move, owners do not, and disruptive events are fundamental in creating intentions and mobility. It is also worth drawing attention to the role of job change in creating intention and moves.

Model Results and Analysis

We begin with the results of our modeling of how intention decisions are related to demographic characteristics, life course changes, and mobility. We follow that with the results of our modeling of the outcomes of the intention decisions: that is, how mobility outcomes, conditional on intentions, are themselves related to demographic characteristics and life course changes.

What creates intention?

Recall that we measure intention to move with four categories for the expressed likelihood of moving – definitely, probably, uncertain, no intention. We construct logistic regression models of intention to move at two levels: first, modeling "intending to move" as those responding definitely or probably; second, modeling "strongly intending to move" as only those responding definitely. This ties into our subsequent modeling of mobility outcomes, where we include "strongly intending to move" as an explanatory variable in one of the models. The estimates (reported as odds ratios) and model fit are provided in Table 2. The aim of this model, as it was for Kan (1999), is to evaluate what goes into creating an intention to move.

We note initially that households with young, single, male or African American heads all are more likely to express an intention to move. When we control for tenure the outcomes are classical residential mobility outcomes. The younger and the renters plan to move, the older and the owners do not. The tenure variable is especially strong; the odds of an owner expressing an intent to move are half those of a renter.

Socio-economics status measured by the head's education matters: college educated respondents are significantly more likely to express an intention to move. Household

income, however, apparently plays little role in the formation of intentions to move, with coefficient estimates that individually do not reach significance, and which collectively are not significantly different from each other.[5]

The unemployed want to move, a solid part of understanding the creation of intention, but as we would expect being retired is negatively related to intention to move, over and above the effect of age itself. Those with a job change (which we interpret as a volitional act) and those who are laid off express strong intentions to move.

The story which is emerging of the creation of intention is a story of response to life course changes. This story is elaborated by considering the other changes in the life course, those revolving around family and household changes. Forming a couple, during which presumably one or both members moved, reduces the intention to subsequently move, and separating or divorcing increases it substantially. Having a child did not increase the likelihood of expressing an intention to move, suggesting that any residential adjustment took place before or shortly after the birth of the child.

The finding that moving begets moving has been suspected about migration and mobility but seldom documented in so clear a fashion. A substantial fraction of movers still express the definite intention to move again. Within our modeling universe,13% of all observations expressed the definite intention to move, but among those who moved during the wave in which that intention was formed, 27% expressed the definite intention to move yet again. This relationship holds up through our modeling, which shows that having moved is technically just below significance for the general intention to move outcome, but is significant at the .001 level for the strong intention to move outcome. The finding is consistent with the very high rates of mobility for younger populations as they go through the process of finding out where and with whom they want to live. It is dynamic periods when mobility indeed begets mobility. It captures the series of adjustment moves for those whose moves did not work out, as well as the moves of those who just are in that stage of their life where they are young, renters and making adjustments in where they want to live and whom they want to live with. Changing residences, like changing jobs and romantic partnerships, is part of the process of deciding how they want to live and finding their way there.

The results are much more interpretable than the earlier study by Kan (1999). Unemployment does matter, it did not in Kan’s study, and retirement has the opposite sign and makes more sense than to have a positive intention to move. We would expect the retired population by and large to be settled, older persons have much lower mobility rates, on average. Of course, as Kan’s study used PSID data two decades older than ours, it is possible that the estimate for retirement reflects a changing attitude to retirement, greater likelihood of staying in the workforce and/or staying near children and grandchildren (Michelin and Mulder, 2007).

[5]Collective significance was determined using Wald tests for the collection of coefficient estimates associated with a given categorical variable.

Education is significant with the same sign and job change also plays a positive role in intending to move, an expected outcome from the research on mobility and job change. Home ownership of course is negative. Our results have greater depth when we turn to household's composition change. Kan considered only change in marital status which was not significant. In our model we have strong and significant effects for both couple formation and dissolution.

Who acts on intention?

The second dimension of our analysis is what happens after the expressed intention. On this topic we can match our results to the literature which has explored this in some depth, especially the studies by De Groot et al. (2011a, 2011b) and Coulter (2011). The estimates (reported as odds ratios) and model fit are provided in Table 3.

Summarizing the findings of the conditional models of mobility (conditional on expressed intent) provides confirmation of some previous findings but raises questions about the role of other variables. In the most succinct interpretation the decision to move conditional on intent is determined by the strength of the intention. The chance of moving increases with a strong intention, it increases if they became married or began cohabitation, and it increases a lot if they became separated or divorced. We can interpret the outcomes of whether there is a move as a function of the well-established trigger effects of family change. In this way we are including the role of intention as a context in the mobility process.

At a broader level, most of the significant determinants of expressed intention are also significant determinants of mobility given intention. Age is significant; female heads, who were less likely to express intention to move, are more likely to move given the intention; and African Americans who wanted to move, actually were less likely to move, which hints at the constraints on their opportunities. Neither education, nor income, matter in whether nor not an intention is turned into a move. Home ownership, as in the case of intent, reduces the likelihood of a move. A job change also increases the probability of moving. However, the size of the effect in several variables declines when strong intention is introduced as an explanatory variable. The power of ownership, marriage, birth and job change all have small decreases in the size of their coefficients. At the same time, they are all still significant and who that they continue to play a role in the outcome of whether someone will move or not conditional on strong intentions.

Intending not to move

To this point we have examined the conditional probability of moving given an expressed intent to move. There is also the ancillary question of those who expressed an intention *not* to move but who moved. How can we explain their decision making? The third model in Table 3 focuses on the 19,635 observations indicating at t_0 that they had no intention of moving by t_{+1}. It models the decisions of the nearly 15% of them who moved in spite of their intentions, rather than as a consequence of their intentions.

In general, the variables that were important for our models of moving given intention are important as well for moving with no intention. The few differences are worth noting. Family status now plays a role, with singles, especially childless ones, being more likely to

move. African Americans are no longer significantly less likely to move than others; they are actually slightly more likely, but not a statistically significant difference. Homeowners experience an even greater reduction in the odds of their moving when there was no intention to move. And, the birth of a child yields a strong and statistically significant increase in the odds of moving when there was no prior intention.

However, becoming a couple or separating creates the most substantial change in outcome. The chance of moving increases many times in comparison with the situation when the family is stable, not a surprising outcome since at least one of the partners will be moving in or out. Job change still matters. We can assume that perhaps an unanticipated job change, or birth of a child is more important for moving for those without intent than it is for those with intent to move. Clearly, those who move who were not intending to are those who experienced unanticipated events, not necessarily negative events, but nonetheless events which did not figure into the planning horizon. That these events are a non-trivial experience —do we know how many and who, again a question like the one above about strong intent and composition change. That so many moves occur without planning re-emphasizes the complexity of the mobility decision making process.

In the initial argument in support of introducing a sequence approach to intentions and mobility we suggested that it has been difficult to find substantial levels of fit for models of residential mobility reflecting the complexity of the process. The fit of our conditional models are larger than some previous studies and the pseudo r square values in the range of . 16 to .29 are well above the range of most reported studies.

Conclusions and observations on modeling residential mobility

The research in this paper brings us closer to an integrated model of considering moving and developing intentions to move, and then translating those intentions to actual mobility. It is clear that family change is fundamental both in the process of deciding (creating an intention) and subsequently in the process of moving. That, and economic events, job change and job loss, in combination with family change, create intentions and outcomes. While at one level mobility can be considered an evaluative process, and for many it is, for many others it is the outcome of events, either internal or external, which create a situation where moving is a necessary and sometimes the only possible outcome. This research taken together with the previous studies discussed in the review of the literature provides a more complete understanding of the processes and the trade-offs that go into the mobility process. Where once we focused almost entirely on the choice process of moving, for example to become owners and bring housing needs into adjustment with housing provision, the new research approaches emphasize the embedded nature of residential change. In this study we have not been able to bring in the role of the neighborhood but clearly satisfaction and residential duration are additional elements of the decision making process to be pursued in further research.

In the end, whether or not residential change takes place is also heavily influenced by current tenure. While family change, both positive and negative, is central to understanding residential change, these changes must be seen within the context of tenure. Owners are

much less likely to intend to move and have lower probabilities of moves conditional on being an owner.[6] Whether or not residential change takes place is also affected by ethnic status. African Americans express moderately strong intentions of moving, they are 50 percent more likely to express the intention to move than whites. While this in part reflects the desire of those in poor neighborhoods to gain better environments, as has been documented by South and Crowder (2005), those intentions are less likely to be translated into moves. It reflects the greater overall difficulty that they are likely to have in making housing market changes.

The labor market also plays a contextual role in the likelihood of intending to move and making the residential change. Job changes create the intention to move and this is often followed by a move in the next window of opportunity. Job change increases the log odds by about 25 percent, but nearly doubles the odds of moving conditional on intent to move. The unemployed intend to move and move but the retired do not intend to move and do not.

In this conclusion we draw attention to three important new findings. First, we demonstrate that we can model the creation of an intention (or expectation) of moving. Second, we document the power of strong intentions on the likelihood of a move. Third, we document the positive role of previous mobility on the intention for further mobility.

At the core of this study was our approach to broadening the analysis of the intent and mobility literature by bringing into focus the links between family status and family change and the likelihood of thinking about moving. Analyzing how an intention to move is formed, the role of events in creating that likelihood, unpacks what has been until now mostly an acceptance of intention or expectation as a predictor of mobility. We show that intentions are related to a similar set of variables but their impacts have varying strengths when we use them to assess intention or to assess mobility. The models are robust and the coefficients of fit provide confidence that we have captured much of what goes into forming intentions and predicting residential changes.

With respect to those who express definite intentions to move we find that their odds of moving are three times that of those who express a general intention to move. Apart from the role of getting married or separated this is the most powerful predictor of mobility conditional on intention to move. As we noted in the discussion of the results, moving is often followed by another move as families continue to juggle their needs, desires and constraints, and this is especially true for those who express a strong intention of moving. They follow up their move with a continuing strong intention to change residences and then many make the change again. Further work will explore how the young adult cohorts in particular are able to translate their intentions to choices in the housing market, especially in housing markets which are volatile and experiencing significant price shifts. Overall, there are a subset of topics which involve decisions, choices and outcomes in the housing market particular for young adults who are trying to get a foothold on the housing ladder.

[6]Surveys which have asked about reasons for moves report that the desire to own is a motivating force in mobility. We do not have data which allows us to measure the decision to seek ownership.

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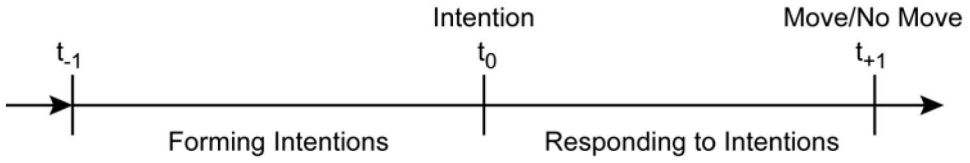

Figure 1.
Creating intentions and acting on them (note that t represents a survey wave which occurs every two years)

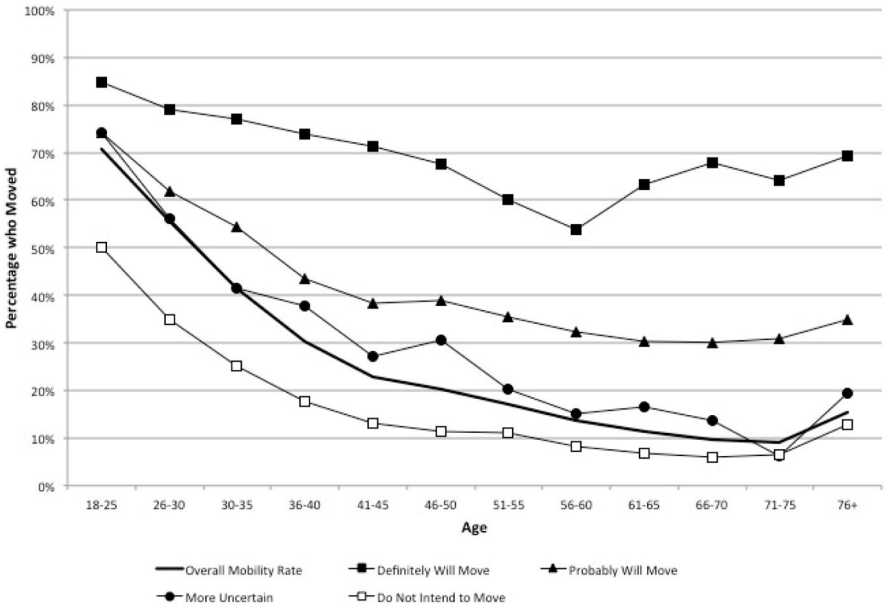

Figure 2.

Mobility by age and intention to move

Source: Data from the Housing Income Dynamics Survey in Australia

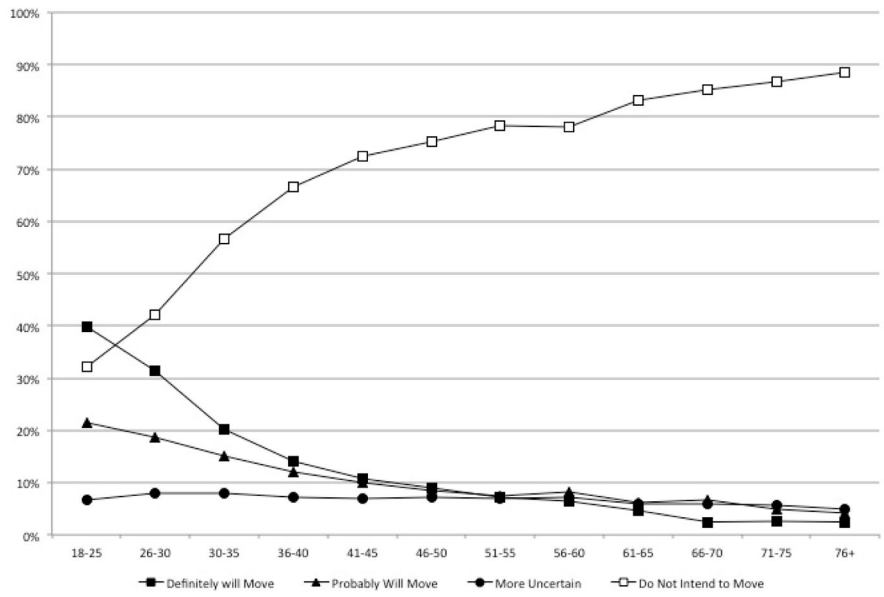

Figure 3.
Intention to move by age
Source: Data from the Housing Income Dynamics Survey in Australia

Table 1

Descriptive statistics for independent variables in the models

	Models of Moving Intention		Models of Mobility, Intend to Move		Models of Mobility, Intend to Not Move	
Total	**29,326**		**7,073**		**20,222**	
Continuous Variable	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Age	45.6	16.1	38.7	13.4	50.9	15.8
Categorical Variables	**N**	**%**	**N**	**%**	**N**	**%**
Family Status						
Couple w/Child	9,577	32.7	2,123	30.0	6,813	33.7
Couple w/o Child	9,383	32.0	1,506	21.3	7,508	37.1
Single w/Child	2,257	7.7	776	11.0	1,144	5.7
Single w/o Child	8,109	27.7	2,668	37.7	4,757	23.5
Family Size						
1	6,853	23.4	2,252	31.8	3,955	19.6
2	9,583	32.7	1,950	27.6	7,085	35.0
3	5,176	17.6	1,240	17.5	3,481	17.2
4	5,005	17.1	1,014	14.3	3,649	18.0
5	1,901	6.5	437	6.2	1,414	7.0
6+	808	2.8	180	2.5	638	3.2
Gender						
Male	23,093	78.7	5,296	74.9	16,272	80.5
Female	6,233	21.3	1,777	25.1	3,950	19.5
Race						
White	25,476	86.9	5,811	82.2	17,986	88.9
Black	2,476	8.4	871	12.3	1,427	7.1
Other	1,374	4.7	391	5.5	809	4.0
Education						
College Degree	10,233	34.9	2,482	35.1	7,244	35.8
Some College	7,448	25.4	2,095	29.6	4,664	23.1
HS Grad/GED	8,725	29.8	1,884	26.6	6,257	30.9
Less than HS	2,920	10.0	612	8.7	2,057	10.2
Household Income						

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	Models of Moving Intention		Models of Mobility, Intend to Move		Models of Mobility, Intend to Not Move	
Total	**29,326**		**7,073**		**20,222**	
Continuous Variable	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
Lowest quintile	5,049	17.2	1,526	21.6	3,036	15.0
Second quintile	5,453	18.6	1,667	23.6	3,230	16.0
Central quintile	5,907	20.1	1,442	20.4	4,041	20.0
Fourth quintile	6,385	21.8	1,312	18.5	4,718	23.3
Highest quintile	6,532	22.3	1,126	15.9	5,197	25.7
Labor Force Status						
Working	22,480	76.7	5,622	79.5	14,614	72.3
Layoff (temporary)	151	0.5	45	0.6	98	0.5
Unemployed	1,053	3.6	492	7.0	518	2.6
Retired	3,968	13.5	382	5.4	3,866	19.1
Disabled	748	2.6	203	2.9	604	3.0
Keep House	527	1.8	127	1.8	382	1.9
Student	291	1.0	171	2.4	81	0.4
Other	108	0.4	31	0.4	59	0.3
Tenure						
Owner	20,075	68.5	2,612	36.9	16,894	83.5
Renter	8,024	27.4	3,870	54.7	2,826	14.0
Neither	1,227	4.2	591	8.4	502	2.5
Destabilizing Events						
Moved	8,170	27.9				
Coupled	826	2.8	610	8.6	514	2.5
Separated	535	1.8	304	4.3	596	2.9
Widowed	99	0.3	10	0.1	84	0.4
Birth of Child	2,014	6.9	678	9.6	963	4.8
Job change, head or wife	10,609	36.2	3,475	49.1	5,681	28.1
Fired/laid off, head or wife	869	3.0	293	4.1	507	2.5

TABLE 2

Odds ratios for the independent variables in the intention to move models

	Intend to Move			Strongly Intend to Move		
	Odds Ratio	**Std. Err.**	**Z**	**Odds Ratio**	**Std. Err.**	**Z**
Family status (ref couple w/o child)						
Couple w/Child	0.867	0.078	−1.59	0.931	0.099	−0.68
Single w/Child	1.991	0.230	5.95***	2.136	0.264	6.14***
Single w/o Child	2.428	0.277	7.76***	1.974	0.243	5.53***
Family size (ref one person)						
2	1.098	0.108	0.96	0.974	0.104	−0.25
3	1.101	0.135	0.78	0.888	0.122	−0.86
4	0.921	0.123	−0.62	0.842	0.126	−1.16
5	0.904	0.135	−0.68	0.804	0.135	−1.30
6+	1.043	0.183	0.24	0.923	0.181	−0.41
Age						
Age	0.891	0.008	−12.40***	0.917	0.010	−8.13***
Age Squared	1.001	0.000	6.95***	1.000	0.000	3.74***
Gender (ref Male)						
Female	0.702	0.057	−4.38***	0.691	0.056	−4.56***
Race (ref White)						
Black	1.468	0.123	4.60***	1.649	0.134	6.14***
Other	1.065	0.106	0.64	1.032	0.107	0.30
Education (ref less than HS)						
College Degree	1.507	0.139	4.45***	1.407	0.138	3.48***
Some College	1.379	0.125	3.54***	1.351	0.129	3.14**
HS Grad/GED	1.052	0.093	0.57	1.112	0.105	1.12
Household Income (ref middle quintile)						
Lowest quintile	1.135	0.080	1.80	1.135	0.087	1.65
Second quintile	1.140	0.069	2.16*	1.177	0.080	2.41*
Fourth quintile	1.047	0.063	0.77	1.128	0.079	1.71

	Intend to Move			Strongly Intend to Move		
	Odds Ratio	**Std. Err.**	**Z**	**Odds Ratio**	**Std. Err.**	**Z**
Highest quintile	1.064	0.073	0.91	1.204	0.095	2.35*
Labor force status (ref employed)						
Layoff (temporary)	0.835	0.207	−0.73	0.723	0.215	−1.09
Unemployed	1.376	0.125	3.52***	1.282	0.120	2.64**
Retired	0.718	0.078	−3.07**	0.640	0.095	−3.00**
Disabled	1.112	0.144	0.81	1.158	0.168	1.01
Keep House	0.876	0.136	−0.85	0.868	0.153	−0.80
Student	1.488	0.238	2.49*	1.334	0.206	1.86
Other	1.042	0.296	0.14	0.765	0.254	−0.81
Tenure (ref renter)						
Owner	0.419	0.022	−16.62***	0.495	0.029	−12.13***
Neither	0.642	0.056	−5.08***	0.806	0.072	−2.41*
Destabilizing Events (separately, ref no change)						
Moved	1.089	0.048	1.92	1.486	0.073	8.03***
Coupled	0.506	0.054	−6.39***	0.567	0.063	−5.11***
Separated	4.684	0.556	13.02***	3.688	0.442	10.90***
Widowed	2.099	0.728	2.14*	1.762	0.832	1.20
Birth of child	1.077	0.074	1.08	1.171	0.090	2.06*
Job change, head or wife	1.292	0.053	6.22***	1.252	0.058	4.80***
Fired/laid off, head or wife	1.651	0.160	5.17***	1.516	0.160	3.94***
Model Summary		**d.f.**	**Chi Squared**		**d.f**	**Chi Squared**
Model Wald Chi Squared		42	2859.83***		42	2328.72***
Panel: L.R. Chi Squared		1	1028.77***		1	347.08***
Wave: Wald Chi Squared		6	28.79***		6	12.28
Pseudo R-squared			0.17			0.16
Observations		29,326			29,326	

Notes:

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* p<0.05;
** p<0.01;
*** p<0.001

TABLE 3

Odds ratios for the independent variables in the models of mobility given intention

	Intend to Move: Model 1			Intend to Move: Model 2			Intend Not to Move		
	Odds Ratio	**Std. Err.**	**Z**	**Odds Ratio**	**Std. Err.**	**Z**	**Odds Ratio**	**Std. Err.**	**Z**
Very Likely									
Strongly Intends				3.111	0.198	17.85***			
Family status (ref couple w/o child)									
Couple w/Child	1.186	0.177	1.14	1.193	0.180	1.17	0.883	0.113	−0.98
Single w/Child	0.692	0.116	−2.19*	0.660	0.112	−2.45*	1.518	0.253	2.50*
Single w/o Child	0.690	0.112	−2.28*	0.680	0.111	−2.37*	2.077	0.335	4.53***
Family size (ref one person)									
2	0.890	0.129	−0.81	0.918	0.133	−0.59	1.473	0.203	2.81**
3	0.720	0.134	−1.77	0.712	0.134	−1.81	1.381	0.235	1.90
4	0.734	0.150	−1.52	0.711	0.146	−1.66	1.345	0.250	1.59
5	0.927	0.212	−0.33	0.962	0.222	−0.17	1.440	0.298	1.76
6+	0.771	0.209	−0.96	0.774	0.212	−0.94	1.670	0.390	2.20*
Age									
Age	0.925	0.013	−5.58***	0.927	0.013	−5.44***	0.865	0.010	−12.44***
Age Squared	1.001	0.000	4.00***	1.001	0.000	4.10***	1.001	0.000	9.88***
Gender (ref Male)									
Female	1.631	0.164	4.85***	1.728	0.176	5.39***	1.543	0.171	3.91***
Race (ref White)									
Black	0.673	0.069	−3.88***	0.611	0.063	−4.81***	1.130	0.129	1.07
Other	0.845	0.118	−1.21	0.878	0.123	−0.93	0.988	0.144	−0.09
Education (ref less than HS)									
College Degree	1.018	0.132	0.14	0.977	0.128	−0.18	0.982	0.115	−0.16
Some College	0.930	0.118	−0.57	0.895	0.114	−0.87	1.016	0.117	0.13
HS Grad/GED	1.041	0.132	0.32	1.001	0.128	0.01	0.969	0.106	−0.28
Household Income (ref middle quintile)									
Lowest quintile	0.896	0.096	−1.02	0.876	0.095	−1.22	1.025	0.109	0.24

	Intend to Move: Model 1			Intend to Move: Model 2			Intend Not to Move		
	Odds Ratio	**Std. Err.**	**Z**	**Odds Ratio**	**Std. Err.**	**Z**	**Odds Ratio**	**Std. Err.**	**Z**
Second quintile	0.906	0.086	−1.04	0.903	0.086	−1.07	1.025	0.094	0.27
Fourth quintile	0.897	0.087	−1.12	0.841	0.083	−1.76	1.046	0.091	0.51
Highest quintile	1.129	0.121	1.14	1.061	0.115	0.55	1.064	0.103	0.64
Labor force status (ref employed)									
Layoff (temporary)	0.952	0.361	−0.13	0.890	0.342	−0.30	0.534	0.220	−1.52
Unemployed	1.042	0.134	0.32	1.018	0.133	0.14	1.341	0.197	2.00*
Retired	1.146	0.200	0.78	1.064	0.187	0.35	1.065	0.131	0.51
Disabled	1.191	0.223	0.93	1.174	0.222	0.85	1.421	0.227	2.20*
Keep House	1.442	0.358	1.47	1.484	0.374	1.57	1.120	0.225	0.56
Student	1.019	0.213	0.09	0.966	0.204	−0.16	0.816	0.279	−0.59
Other	2.338	1.226	1.62	1.777	0.928	1.10	1.184	0.512	0.39
Tenure (ref renter)									
Owner	0.350	0.027	−13.65***	0.394	0.031	−12.03***	0.199	0.016	−20.61***
Neither	0.959	0.114	−0.35	0.812	0.098	−1.72	0.653	0.098	−2.84**
Destabilizing Events (separately, ref no change)									
Coupled	5.348	0.844	10.62***	5.128	0.818	10.24***	10.692	1.579	16.05***
Separated	8.262	1.866	9.35***	8.501	1.938	9.39***	78.584	11.492	29.84***
Widowed	1.868	1.408	0.83	2.041	1.544	0.94	2.788	1.025	2.79**
Birth of child	1.350	0.155	2.61**	1.348	0.157	2.56*	1.423	0.165	3.05**
Job change, head or wife	1.762	0.114	8.80***	1.728	0.113	8.39***	2.112	0.131	12.09***
Fired/laid off, head or wife	1.077	0.168	0.47	1.125	0.177	0.75	1.480	0.226	2.56*
Model Summary		**d.f.**	**Chi Squared**		**d.f**	**Chi Squared**		**d.f.**	**Chi Squared**
Model Wald Chi Squared		41	740.37***		42	917.38***		41	2018.61***
Panel: L.R. Chi Squared		1	47.91***		1	34.03***		1	263.85***
Wave: Wald Chi Squared		6	55.79***		6	60.28***		6	47.05***
Pseudo R-squared			0.18			0.24			0.29
Observations		7,073			7,073			20,222	

Notes:

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* p<0.05;
** p<0.01;
**** p<0.001