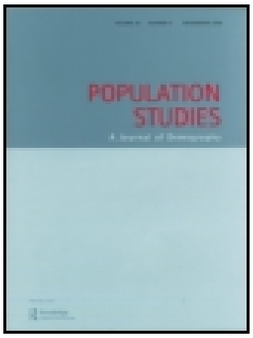

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Short- and long-term effects of divorce and separation on housing tenure in England and Wales

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This paper investigates the effects of marital and non-marital separation on individuals' housing tenure in England and Wales. We apply competing risks event history models to data from the British Household Panel Survey and the UK Household Longitudinal Study to analyse the risk of a residential move to different tenure types, for single, married, cohabiting, and separated men and women. Separated individuals are more likely to move and experience a tenure change than those who are single or in a relationship. Among separated people, private renting is the most common outcome of a move; however, women are also likely to move to social renting, whereas men tend to move to homeownership. This pattern persists when we account for time since separation and order of move, indicating a potential long-term effect of separation on housing tenure. This long-term effect is especially pertinent to separated women who cannot afford homeownership.

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Keywords: separation; short- and long-term effect; housing tenure; England and Wales; multilevel event history analysis

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Introduction

Partnership patterns in Europe and other industrialized countries have changed significantly in recent decades. Premarital cohabitation has spread rapidly, divorce and separation levels have increased, and repartnering has become a common phenomenon (Thomson 2014). In England and Wales, the number of divorces increased from approximately 24,000 to about 111,000 per year between 1960 and 2014 (Office for National Statistics 2016). The share of first unions that start as non-marital cohabitations has also increased considerably (Beaujouan and Ní Bhrolcháin 2011). Two-thirds of cohabiting unions transform to marriages and about a third end in separation within ten years (Ermisch and Francesconi 2000; Hannemann and Kulu 2015). Because cohabiting unions are less stable than marriages, the increased prevalence of cohabitation contributes to the rising number of union dissolutions (Feijten and van Ham 2010).

The increase in divorce and separation has led to a growing body of literature on its consequences on individuals' life trajectories, including housing and residential careers. Studies have shown that separation and divorce lead to downward moves on the housing ladder, are likely to disrupt individuals' housing trajectories, and may have long-lasting negative consequences for individuals' housing careers and well-being (Sullivan 1986; Dieleman and Schouw 1989; Gober 1992; Booth and Amato 1993; Dieleman et al. 1995; Feijten 2005; Feijten and van Ham 2007; Helderman 2007; Lersch and Vidal 2014). Separation implies that at least one of the partners will have to move out of the joint home. Such moves are usually urgent and financially restricted (Feijten and van Ham 2007), that is, following separation individuals may have to move to suboptimal dwellings that are smaller, cheaper, and of lower quality (Feijten and Mulder 2010). Additionally, many separated individuals will have to make several 'adjustment' moves before finding an appropriate place.

The population composition by housing tenure in England and Wales has also changed considerably in recent decades. The proportion of households in

owner-occupied dwellings increased from the 1980s to the early 2000s and reached a peak of 71 per cent in 2003. Since then, there has been a gradual decline. The proportion of households renting privately remained at about 10 per cent throughout the 1980s and 1990s. Since then, the sector has undergone a sharp growth due to factors such as the introduction of assured shorthold tenancies and the buy-to-let mortgage. The proportion of households in socially rented accommodation (including housing from local authorities and housing associations) peaked in the early 1980s (at 31 per cent in 1980) and declined significantly thereafter. This was primarily due to the introduction of the Right to Buy programme, which enabled many tenants to purchase their homes at a discounted price (Department for Communities and Local Government 2015). According to the 2011 Census, the housing stock in England and Wales at that time was dominated by owner-occupied dwellings (61 per cent), while 17 per cent of dwellings were socially rented, and 16 per cent were privately rented (Office for National Statistics 2014).

In this paper, we investigate the short- and long-term effects of separation on individuals' housing tenure. We extend previous research in the following ways. First, we investigate tenure changes among *all separated individuals*. Previous research has mainly examined transitions of the separated out of homeownership (Sullivan 1986; Dieleman and Schouw 1989; Gober 1992; Booth and Amato 1993; Dieleman et al. 1995; Feijten 2005; Feijten and van Ham 2007; Helderman 2007; Lersch and Vidal 2014). However, analysing moves out of homeownership limits the study population to homeowners only, a potentially select group of individuals. Separation may have even more serious consequences for those who live in socially or privately rented accommodation at the time of separation, because these individuals are likely to have fewer resources and to be in a more vulnerable position compared with homeowners.

Second, we examine housing transitions by the *tenure of the destination housing* and distinguish between homeownership, private renting, and social renting. Most previous research has focused on moves out of homeownership without distinguishing between moves to privately rented and moves to socially rented dwellings. However, studying residential moves by the tenure type of the destination housing leads to a better understanding of how individuals' housing careers develop following separation (Feijten 2005; Dewilde 2008). Third, we combine information on both *residential moves* and *tenure changes*. Previous research has focused either on tenure changes or on residential moves when studying residential change. However, the former approach excludes moves without tenure changes (e.g., from homeownership to homeownership), whereas the latter approach excludes tenure changes without moves (e.g., a tenant becomes a homeowner).

Previous research and hypotheses

There is a large body of literature on the link between residential moves and family events (e.g., Courgeau 1985; Mulder and Wagner 1993; Odland and Shumway 1993; Ermisch and Di Salvo 1996; Clark and Davies Withers 2007; Ermisch and Washbrook 2012; Clark 2013; Ermisch and Steele 2016). Previous studies have shown that family events such as union formation, marriage, or childbirth lead to 'upward' residential moves on the housing ladder; individuals are likely to move to larger, better quality dwellings in order to adjust their housing conditions to the new circumstances (Clark et al. 1984, 1994; Deurloo et al. 1994; Davies Withers 1998; Feijten and Mulder 2002; Clark and Huang 2003; Helderman et al. 2004; Kulu 2008; Michielin and Mulder 2008; Clark and Davies Withers 2009; Mulder and Lauster 2010; Rabe and Taylor 2010). For example, family formation is associated with moves to single-family homes and to homeownership (Deurloo et al. 1994; Davies Withers 1998; Mulder and Wagner 1998, 2001; Feijten and Mulder 2002; Ermisch and Halpin 2004; Kulu 2008; Michielin and Mulder 2008; Enström Öst 2012). More recently, it has been shown that couples often move while waiting for a child to be born (Kulu 2008; Kulu and Steele 2013; Ermisch and Steele 2016).

By contrast, union dissolution is a life course event that is likely to have a negative effect on individuals' housing careers (Feijten and Mulder 2010). Moves related to separation are usually urgent because at least one of the partners needs to move out of the joint home in order for the couple to be able to effect their decision to separate (Speare and Goldscheider 1987; Feijten and van Ham 2007, 2010; Mulder and Wagner 2010). Additionally, after separation, the financial resources of ex-partners are restricted due to a decrease in household income and the loss of economies of scale (Feijten and van Ham 2007, 2010).

If one ex-partner moves out of the joint home following separation, the other ex-partner may stay or both may move out. However, if one ex-partner decides to stay, the other will have to move out

(Thomas et al. 2017). The decision of who moves out of the joint home following separation is based on intra-couple dynamics of balancing and bargaining (Mulder and Wagner 2010; Mulder and Malmberg 2011). Research has shown that the ex-partner with greater relative resources and with higher levels of self-determination during the bargaining process is more likely to stay in the joint home following separation (Mulder and Wagner 2010; Mulder and Malmberg 2011). A study on the Netherlands has shown that ex-partners who initiate the separation and those who have separated because of starting a new partnership are more likely to move out of the joint home, whereas those who have custody of children are more likely to stay (Mulder and Wagner 2010). A recent British study found that among ex-partners without children, men and women are equally likely to move out of the joint home, but among those who have one or more children, fathers are more likely to move out than mothers (Thomas et al. 2017). All in all, at least one of the separated ex-partners will have to move out of the joint home following separation and these individuals are likely to experience 'downward' moves on the housing ladder; they are likely to move out of single-family homes, from owner occupation to rented housing (Sullivan 1986; Dieleman and Schouw 1989; Feijten 2005), and often move to shared housing or to their parents' home at least temporarily (Feijten and van Ham 2007).

Most previous research that has focused specifically on residential moves of separated individuals has studied how separation influences individuals' risks of moving out of homeownership. These studies have found that divorced and separated individuals are more likely to move out of owner occupation than those who are married or cohabiting (Ermisch and Di Salvo 1996; Feijten 2005; Feijten and Mulder 2010; Feijten and van Ham 2010; Lersch and Vidal 2014). Previous research on the moving risks of separated individuals who live in rental dwellings (private or social) at the time of separation is scarce. One example is Ermisch and Di Salvo (1996), who showed the importance of the parental home for individuals who live in socially rented dwellings at the time of separation. Individuals who live in privately or socially rented accommodation are likely to be more flexible following separation than homeowners because they are not tied to one dwelling via homeownership. Overall, we expect that:

> Separated individuals will have higher residential mobility rates than those who are in a relationship (Hypothesis 1).

Only a few studies have looked at the tenure type of the dwelling separated individuals move to (e.g., Ermisch and Di Salvo 1996). Moving to a rental property is a likely outcome for separated individuals who cannot afford to purchase their own home after separation. Alternatively, those who already live in rental accommodation at the time of separation may have to move to another rental dwelling that is affordable for one person. Additionally, social renting may be a viable option for those who do not have the means to buy a property or pay market rental price and for those who become single parents following separation. Previous research has shown that divorced and separated individuals are less likely to enter homeownership than those who are married or cohabiting (Feijten and van Ham 2010; Lersch and Vidal 2014; Thomas and Mulder 2016). However, there is less evidence on the risk of moving to rental dwellings. Using British Household Panel Survey data for 1991–2004, Feijten and van Ham (2010) showed that in the UK, among divorced individuals who moved, 40 per cent moved to owner-occupied dwellings, 30 per cent to social renting, and the remaining 30 per cent to private renting. In contrast, 70 per cent of married individuals who experienced a move, moved to owner-occupied dwellings. The study also showed that those who split up from a non-marital co-residential union tend to move to privately rented and 'other' types of dwellings. Additionally, separation has a strong impact on the probability of leaving an owner-occupied dwelling (Ermisch and Di Salvo 1996; Feijten 2005; Lersch and Vidal 2014). We thus expect that:

> Separated individuals will be more likely to move to privately and socially rented dwellings than to owner-occupied dwellings (Hypothesis 2).

It is likely that the effect of separation on housing tenure differs for men and women. Research on the Netherlands has shown that women typically move out of owner occupation while men move but remain homeowners (Feijten 2005). Additionally, Dewilde (2008) found that, in Scandinavian and continental European countries, more women than men leave the marital home following union dissolution, whereas the opposite is true in Anglo-Saxon countries and in southern Europe. Moreover, for men, the presence of children increases the risk of a tenure change. In the UK, most women with children return to the labour market after a short period of maternity leave, which may leave them with more resources following divorce than, for

example, in the Netherlands where women are more financially dependent on men. Additionally, in the UK social housing may be available for some single mothers. We therefore expect that:

> Many separated women will move to social housing whereas among separated men, moving to private renting will be common (Hypothesis 3).

The effect of separation on individuals' residential histories may be long-lasting. The housing situation immediately after separation is likely to be temporary; it may take time and several 'adjustment' moves before separated individuals find an appropriate dwelling (Dieleman and Schouw 1989; Feijten and van Ham 2007; Warner and Sharp 2016). Additionally, those who stay in the joint home following separation may have to move out later if they are not able to afford to maintain their home (Feijten and Mulder 2010). Indeed, previous studies have suggested that separation has a long-term effect on individuals' residential careers. They showed that separated individuals in the Netherlands are more likely to move than those who are single or in a union; and that this relationship persists over time since separation, although the differences become smaller (Feijten and van Ham 2007). Similarly, Feijten and van Ham (2010) found that, in the UK, mobility rates are much higher among people who have recently separated than for those who are in a relationship. Although the moving risk for separated individuals decreases over time, it may remain higher than for those who are in a relationship. To summarize, we expect that:

> Separation will have a long-lasting influence on individuals' tenure transitions (Hypothesis 4).

However, it will be important to determine whether and how mobility rates change by duration since separation.

Only a few studies have looked at the long-term effect of separation on moves to different tenure types. For example, Feijten (2005) found that in the first three months after separation, individuals are most likely to move to 'shared housing' (i.e., parental home or with housemates), followed by rental dwellings. Additionally, among homeowners, the proportion of separated individuals who move to owner occupation increases over time since separation (Feijten 2005; Feijten and Mulder 2010). Sometime after separation, the risk of moving out of owner occupation reduces to pre-separation levels for men but remains high for women. Additionally, Dewilde (2008) showed that most respondents change tenure relatively quickly after union dissolution and the probability of tenure change decreases rapidly over time. However, it should be noted that she only studied first tenure changes. We expect that:

> Separated individuals will be increasingly likely to move to homeownership as time since separation increases (Hypothesis 5).

Again, an interesting question is whether and how the patterns vary by gender—are separated men more likely to return to homeownership than women?

Separation and residential mobility are interrelated processes. It is likely that certain unobserved characteristics jointly influence individuals' propensities to separate and to experience a tenure change. For example, if individuals feel that their relationship is unstable, they will be less likely to buy a home with their partner. At the same time, relationship instability increases the propensity of separation. This means that individuals who are more likely to separate are less likely to move to owner-occupied dwellings in the first place, and vice versa. Disregarding this interdependency between separation and residential mobility could lead to biased estimates. To our knowledge, only two previous studies have accounted for such unobserved selection into separation: Lersch and Vidal (2014) found a strong positive correlation between the unobserved co-determinants of the risk of separation and the risk of moving out of homeownership, while Mikolai and Kulu (forthcoming) found a similar positive correlation between the unobserved co-determinants of the risk of separation and the risk of a residential move. Based on these arguments and evidence, we expect that:

> We will find unobserved co-determinants of separation and tenure change (Hypothesis 6).

However, an interesting question is to what extent unobserved co-determinants of the two processes shape the interrelationships between them, and whether and to what extent we may overestimate the negative consequences of separation on housing tenure trajectories.

Data and methods

Data

We combined information from 18 waves (1991–2008) of the British Household Panel Survey

(BHPS) and four waves (2010–14) of the UK Household Longitudinal Study (UKHLS), often referred to as Understanding Society (USoC) (Institute for Social and Economic Research 2010, 2014; Institute for Social and Economic Research and NatCen Social Research 2015). From wave 2 onwards, USoC included information from all members of the BHPS sample who responded to the final survey wave and did not refuse to participate in USoC. Of all individuals who completed an individual interview at wave 18 of the BHPS, 79 per cent also completed the wave 2 interview of USoC (Lynn et al. 2012). Both panel surveys used nationally representative probability samples of households; the original BHPS sample consisted of 8,000 households whereas USoC interviewed about 40,000 households in the first wave. The structure and design of the two surveys were very similar, with the same sample of adults being interviewed each year. If the composition of a household changed, the original household members were still followed up, and new household members were also interviewed (Knies 2015).

We used information on individuals who were original sample members in the BHPS or part of two additional subsamples (European Community Household Panel and the Wales Extension Sample). We excluded individuals from Scotland and Northern Ireland, because the sample design and some control variables (e.g., area type) were different from the England and Wales sample. Individuals were observed from age 16 or from their date of entry into the study (if later) until age 50, widowhood, or the end of observation, whichever happened first.

Combining the two data sources allowed us to follow individuals for a longer time span than if we had only used the BHPS data. In our sample, 31 per cent of the entire BHPS sample was followed up in wave 2 of USoC. Original sample members in BHPS who grew up to be eligible for an individual interview (age 16) were also included. This yielded 657 additional individuals and 2,281 additional residential changes. The combined sample consisted of 5,313 women and 5,043 men, who experienced 7,506 and 6,718 residential changes, respectively. Fieldwork for the last wave of BHPS took place between 1 September 2008 and the end of April 2009. Additionally, fieldwork for the second wave of USoC was conducted in 2010–11. This means that only a few BHPS interviews took place in 2009 (5 per cent of wave 18 BHPS interviews). This resulted in somewhat lower mobility rates for 2009. However, sensitivity analyses showed that the results were robust to removing the additional episodes and individuals that come from USoC (compare Appendix Table A5 with the last column of Tables S1 and S2 (moves and tenure combined) in the supplementary material).

For studying residential mobility, panel attrition may be an issue because individuals with high spatial mobility are more likely to be lost to follow-up than those with low mobility (Uhrig 2008). However, Rabe and Taylor (2010) and Washbrook et al. (2014) found that attrition in the BHPS is not related to mobility rates, and thus it does not influence analyses related to moving risks. This problem is more prevalent in USoC. However, the level of untraced movers is higher in the General Population Sample of USoC than in the BHPS subsample (Knies 2015). Thus, although in USoC observed mobility rates may be lower than expected, this does not seem to be an issue for the BHPS subsample. One likely explanation for this is that those who have responded to the BHPS for several years may be a select sample of individuals who are more likely to be committed to respond to another wave than the general population.

Method

Following the approach outlined by Mikolai and Kulu (forthcoming), we estimated multilevel event history models to study the risk of repeated residential changes by partnership status. Multilevel models are used because each individual can experience several residential changes. A residential change is defined as a change in residence (i.e., a move) *or* a change in tenure type (without a residential move). Individuals can move or experience a tenure change when single (i.e., never partnered), cohabiting, married, or separated. If both residential and partnership change occur in the same month, we assume the following order of events: separation (at the beginning of the month), residential change (one-third of the way through the month), and the formation of a new union (two-thirds of the way through the month). In this paper, we use the terms 'residential change' and 'residential move' interchangeably.

First, we estimated a joint model of residential changes and separations to identify and control for individual-level unobserved factors that may

simultaneously influence both processes. The model was specified as:

$$\ln \mu_{im}(t) = \ln \mu_0(t) + \sum_j a_j x_{ijm} + \sum_l \beta_l w_{ilm}(t) + \varepsilon_i$$
$$\ln h_{im}(t) = \ln h_0(t) + \sum_j a_j x_{ijm} + \sum_l \beta_l w_{ilm}(t) + u_i \quad (1)$$

where $\mu_{im}(t)$ denotes the hazard of a residential change of order m (first or higher order) for individual i, and $\ln \mu_0(t)$ denotes the baseline log-hazard, which is specified as piecewise linear. For first residential changes, the baseline is an individual's age in months, whereas for second- and higher-order residential changes it is time since previous residential change. Here, x_{ijm} represents time-constant variables and $w_{ilm}(t)$ denotes time-varying variables. To control for unmeasured time-constant characteristics that influence individuals' moving propensities, an individual-level random effect, ε_i, is included. The second line of equation (1) shows the hazard of separation of the mth (first or higher order) union (cohabitation or marriage) for individual i, as denoted by $h_{im}(t)$ and u_i is the individual-level random effect to control for unmeasured time-constant characteristics that influence individuals' likelihood of separation. The residuals of the two equations are assumed to follow a joint bivariate normal distribution:

$$\begin{pmatrix} \varepsilon_i \\ u_i \end{pmatrix} \sim N\left(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_\varepsilon^2 & \rho_{\varepsilon u} \\ \rho_{u\varepsilon} & \sigma_u^2 \end{pmatrix} \right) \quad (2)$$

where σ_ε^2 and σ_u^2 denote the variances of the person-specific residuals of the two processes and $\rho_{\varepsilon u}$ is the correlation between them. Such simultaneous equations hazard models are increasingly applied in social science research where an explanatory variable is expected to be jointly determined with the outcome of interest (e.g., Lillard and Waite 1993; Lillard et al. 1995; Brien et al. 1999; Kulu 2005, 2006; Steele et al. 2005, 2006). The model was identified through within-person replication; many individuals experienced several residential changes and some experienced several partnership dissolutions. The models thus account for time-invariant unobserved co-determinants of both processes, whereas they do not consider the effect of possible temporal 'shocks' and other time-varying factors.

Second, we estimated multilevel competing risks event history models to calculate the risks of moving to different housing tenure types by partnership status. We extended the conventional competing risks model by conducting so-called simultaneous analysis of moves to different housing tenure types (Cleves et al. 2003; Putter et al. 2007; Hoem and Kostova 2008). The model was as follows:

$$\ln \mu_{ikm}(t) = \ln \mu_0(t) + \sum_j a_j x_{ijm} + \sum_l \beta_l w_{ilm}(t) + \gamma_k z_{im} + \varepsilon_i$$
$$\ln h_{im}(t) = \ln h_0(t) + \sum_j a_j x_{ijm} + \sum_l \beta_l w_{ilm}(t) + u_i \quad (3)$$

where μ_{ikm} is the risk of moving to tenure type k and γ_k is a tenure-specific parameter for variable z_{im}, partnership status. The model was fitted using extended data, where each individual has four records; one for each destination tenure type. This model assumes a common baseline for transitions to all tenure types and the same effect of covariates, but the mobility levels by destination housing tenure can vary by partnership status.

The simultaneous event history analyses were carried out in three steps. First, we focused on the relationship between partnership status and moving. Model 1 estimated the effect of partnership status on the risk of a residential change, controlling for other important characteristics. Then, to distinguish moves due to separation (i.e., event moves) from moves of separated individuals (i.e., state moves), we split the category of separated individuals by time since separation, based on the distribution of moving risks over time since separation (0–4, 5–11, 12–35, and 36 or more months after separation) (Model 2). We experimented with other specifications but the results remained robust to different specifications. Finally, we analysed moves of separated individuals by the number of previous moves since separation (Model 3). Preliminary analysis showed that in the first four months following separation, most individuals who move only move once; we therefore studied moves that happened five or more months after separation by the number of previous moves since separation. All three models accounted for the unobserved co-determinants of the risk of a move and the risk of separation. The same three steps of analyses were carried out for the joint competing risks event history models, to study the risk of moving to different tenure types.

We estimated separate models for women and men. As women and men in couples belong to the same household, their partnership and residential histories are not independent. Analysing them within the same model would violate the independence assumption and lead to biased estimates of parameters and standard errors. All models were estimated via full maximum likelihood using the aML software (Lillard and Panis 2003).

Methodological issue: analysing tenure change

There are three possible ways to analyse moves of individuals to different tenure types. First, one may consider analysing tenure change as the event of interest. However, only analysing tenure changes implies that residential moves where no tenure change occurs are excluded. In other words, events where individuals move from homeownership to homeownership, from social renting to social renting, or from private renting to private renting would be excluded. This would substantially reduce the number of events (and mobility rates) and represent a restrictive (and potentially selective) target population and analytical approach.

A second option, which dominates in the literature, is to analyse tenure changes that occur in relation to a residential move. This means that tenure changes that occur without a residential move (e.g., individuals who live in socially or privately rented accommodation buy their home and become homeowners) would be excluded. In our dataset, approximately 13 per cent of all residential changes are tenure changes without a move (this proportion is 6 per cent among separated individuals). Again, this is an unnecessary restriction and would result in a (potentially) selective target population.

Finally, a third option, and the one used in this paper, is to combine information on both residential moves and tenure changes. This is the most comprehensive approach because it includes information on residential moves where the destination tenure type is the same as the origin tenure type, as well as tenure changes that occur without an actual residential move (see Tables S1 and S2 in the supplementary material for more information). Therefore, the analysis in this paper combines information on residential moves and tenure changes.

Variables

In the basic event history models, the main variable of interest is residential moves. As explained in the previous subsection, a residential move is defined in this paper as a change in residence (i.e., move) *or* a change in tenure type (without a residential move). Individuals who had moved since the previous wave were asked to report the year and month of moving to their current place of residence. This means that only one move per wave could be recorded. This may lead to a slight underestimation of mobility rates, especially for separated individuals if they tend to move more than once in the year following separation. The type of housing tenure was recorded in the household questionnaire at each survey wave. However, respondents were not asked to report the year and month of a change in housing tenure. If there was a residential move as well as a tenure change between two interviews, it was assumed that the tenure change and the residential move took place at the same time. If there was a tenure change but no residential move, we assumed that tenure change happened six months before the interview.

For the competing risks models, the main variable of interest was housing tenure type at destination. This variable was measured using the following categories: homeownership (owned outright or with mortgage), social renting (from local authority, housing association, or employer), private renting (furnished or unfurnished), and missing. For separated individuals who move to owner-occupied dwellings, we further distinguished between individuals who are head of the household and those who are not. This was necessary because tenure type is measured at the household level. Additionally, in the BHPS, the head of household is defined as the principal owner or renter of the property. If there is more than one, the male takes precedence. If there is more than one male principal owner or renter in the household, the eldest takes precedence (Taylor et al. 2010). Our assumption is that separated individuals who move to an owner-occupied dwelling and are head of the household are most likely to be homeowners themselves, as opposed to living in a dwelling owned by someone else (e.g., parents or friends). Such a distinction between homeowners who are head of the household and those who are not is only applicable to separated individuals, because in households that include a couple the man will, by definition, be the head of the household (regardless of whether the home is jointly owned or who moved in with whom).

Respondents' *partnership status* was created using combined retrospective and prospective information on the year and month of the formation and dissolution of up to ten unions (both cohabitations and marriages) from the Consolidated Marital, Cohabitation, and Fertility Histories data set (Pronzato 2011). It was categorized as single, married, cohabiting, or separated. The separated category includes individuals who have dissolved a cohabiting union as well as those who have separated from marriage. In the latter case, we use the date of separation (as reported by the respondents) as opposed to the date of legal divorce, because it is usually the

separation rather than the divorce that leads to a move out of the joint home for at least one of the partners (Feijten 2005). Those who enter a new partnership following separation re-enter the cohabitation or marriage state. Widowed individuals are censored at the time of widowhood. When we studied long-term effects of separation, the variable 'separated' was replaced by time since separation (i.e., 0–4, 5–11, 12–35, 36 months or more). We also included the following variables, which are known to influence the risk of a residential change, in the analyses: *age* (16–19, 20–24, 25–29, 30–34, 35–39, 40–44, 45–49); *current housing tenure* (same categories as for destination tenure type); *current housing type* (detached house, semi-detached house, terraced house, flat, other/missing); *educational level* (high (university degree or teaching qualification), medium (A Level), low (O Level, CSE, none)); *employment status* (employed, self-employed, in education, unemployed, other, missing); and *area type of residence* (London, large cities with more than 400,000 inhabitants, medium cities with 200,000–400,000 inhabitants, towns with fewer than 200,000 inhabitants but a population density of over 1,000 individuals per km^2, small towns with fewer than 200,000 inhabitants and a population density of 250–1,000 individuals per km^2, and rural areas with fewer than 200,000 inhabitants and fewer than 250 individuals per km^2) (see Kulu and Washbrook 2014).

Additionally, the analyses were controlled for: *number of previous residential changes* (none, one, or 'two or more' previous residential changes); *order of current union*; *period* (1991–94, 1995–99, 2000–04, 2005–09, 2010–14); whether the woman was *pregnant* in a given month; the *number of children* (none, one, or 'two or more' children); and whether the respondent was a member of an *ethnic minority* group. The numbers and proportions of person-months and residential changes in each category of the variables are shown in Appendix Table A1. The separation equation was also controlled for whether separation was from cohabitation or marriage, and age at union formation.

Results

Overall, women and men of all partnership statuses in the sample experience 7,506 and 6,718 residential changes, respectively (Appendix Table A2). The most common event is a move to an owner-occupied dwelling (48 per cent for women and men), followed by privately rented accommodation (31 per cent for women, 32 per cent for men), and socially rented accommodation (20 per cent for women, 18 per cent for men).

Table 1 shows the relative risks of a residential change for individuals by the key variables of interest for the three steps of the analyses. All models jointly

Table 1 Relative risks of a residential change by partnership status (Model 1), and, for the separated, time since separation (Model 2) and number of residential changes since separation (Model 3), women and men in England and Wales, 1991–2014

	Women			Men		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Partnership status						
Single	1.443**	1.496**	1.481**	1.193**	1.219**	1.209**
Married (ref)	–	–	–	–	–	–
Cohabiting	1.160**	1.184**	1.171**	1.237**	1.252**	1.243**
Separated	1.833**	–	–	1.923**	–	–
Time since separation						
0–4 months	–	2.873**	2.815**	–	3.225**	3.210**
5–11 months	–	2.356**	–	–	1.814**	–
12–35 months	–	1.423**	–	–	1.510**	–
36+ months	–	1.327**	–	–	1.159†	–
Separated 5+ months ago by number of previous residential changes since separation						
No previous residential changes	–	–	1.575**	–	–	1.358**
One previous residential change	–	–	1.486**	–	–	1.384**
Two+ previous residential changes	–	–	1.327**	–	–	1.473**

†$p < 0.1$; *$p < 0.05$; **$p < 0.01$.

Notes: All models identical to results displayed as log-relative risks in Appendix Table A3. Ref indicates the reference category (married individuals).

Source: Authors' calculations based on data from the British Household Panel Survey (1991–2008) and UKHLS Understanding Society (2010–14).

estimate the risk of a residential change and the risk of separation, because there is a strong positive correlation between the residuals of the two equations (see Appendix Tables A3 and A4). This suggests that there are unobserved factors that influence both processes, and that without accounting for unobserved co-determinants of the two processes, the effect of separation on the risk of a residential move would be overestimated (see Table S3 in the supplementary material for more information). Additional analyses showed that the correlation between individual-level residuals is not simply driven by moves due to separation. Even when we excluded the period 0–4 months after separation, the strong positive correlation persisted.

The risk of a residential change is almost twice as high among separated women and men than among those who are married (Model 1, Table 1). This is in line with what we expected based on previous studies. Additionally, the risk of experiencing a residential change is higher for single and cohabiting women and men than for married individuals but lower than for separated individuals.

Figures 1(a) and (b) show the relative risks of residential moves to different tenure types, by partnership status, for women and men, respectively, controlling for unobserved factors. Unsurprisingly, married individuals are more likely to move to homeownership than to other tenures, whereas the most common move for single and cohabiting individuals is to privately rented accommodation. Additionally, cohabiting individuals are less likely to move to homeownership than those who are married. The patterns are different for separated women and men. Separated women are most likely to move to private renting, followed by social renting, and a move to homeownership is a less common option. Like separated women, separated men are also most likely to move to privately rented accommodation. However, the second most common move for this group is to owner-occupied dwellings where they are head of the household. This indicates that men are more likely to become homeowners after separation than women. The least common outcome for separated men is a move to an owner-occupied dwelling where someone else is the head of the household or to a socially rented dwelling.

Model 2 distinguishes between moves due to separation and moves of separated individuals by replacing the category of separated individuals with a variable showing time since separation (Table 1). In the first four months following separation, the risks of a residential move are 2.9 and 3.2 times higher than for married women and men, respectively. This supports our expectation that many men and women move soon after separation. The risk of a residential change decreases as time since separation increases, but three or more years after separation it is still 1.3 times higher for separated women and 1.2 times higher for separated men than among their married counterparts. Figures 2(a) and (b) show that in the first four months after separation, separated individuals are equally likely to move to all tenure types. However, in later periods (5–11, 12–35, and 36 or more months after separation), women are most likely to move to private renting, followed by social renting and owner occupation where they are not head of household (except in the last period). Although moving to private renting is also the most common among men, they are next most likely to move to owner occupation where they are head of the household and to social renting. These findings suggest that, soon after separation, individuals are equally likely to move to all tenure types. However, sometime after separation, the tendency is that men are more likely to become homeowners, whereas women are more likely to move to a socially rented dwelling (note that the differences are not always statistically significant).

Model 3 further distinguishes moves that occur five or more months after separation by the number of previous residential moves since separation, to investigate further whether separation has a long-term effect on individuals' residential careers (Table 1). The results indicate that, for women, the risk of a residential move five or more months after separation is highest for those who have not yet experienced a residential change during separation; they are 58 per cent more likely to move than married women. However, among men, the highest risk of a residential change is among those who have already moved twice or more; they are 1.5 times more likely to move than married men. These findings suggest that separated men who move at least once during separation experience turbulent residential careers; men who move are likely to experience further residential changes, although the differences between the groups are small. However, for women we find the opposite; with every additional residential move, women are less likely to experience another residential change. The results from disaggregating these patterns by destination tenure of move, as shown in Figures 3(a) and (b), support the hypothesis that, although separated individuals overall are most likely to move to private renting, women are next most likely to move to socially rented dwellings, whereas men are next most likely to purchase their own home. This pattern becomes

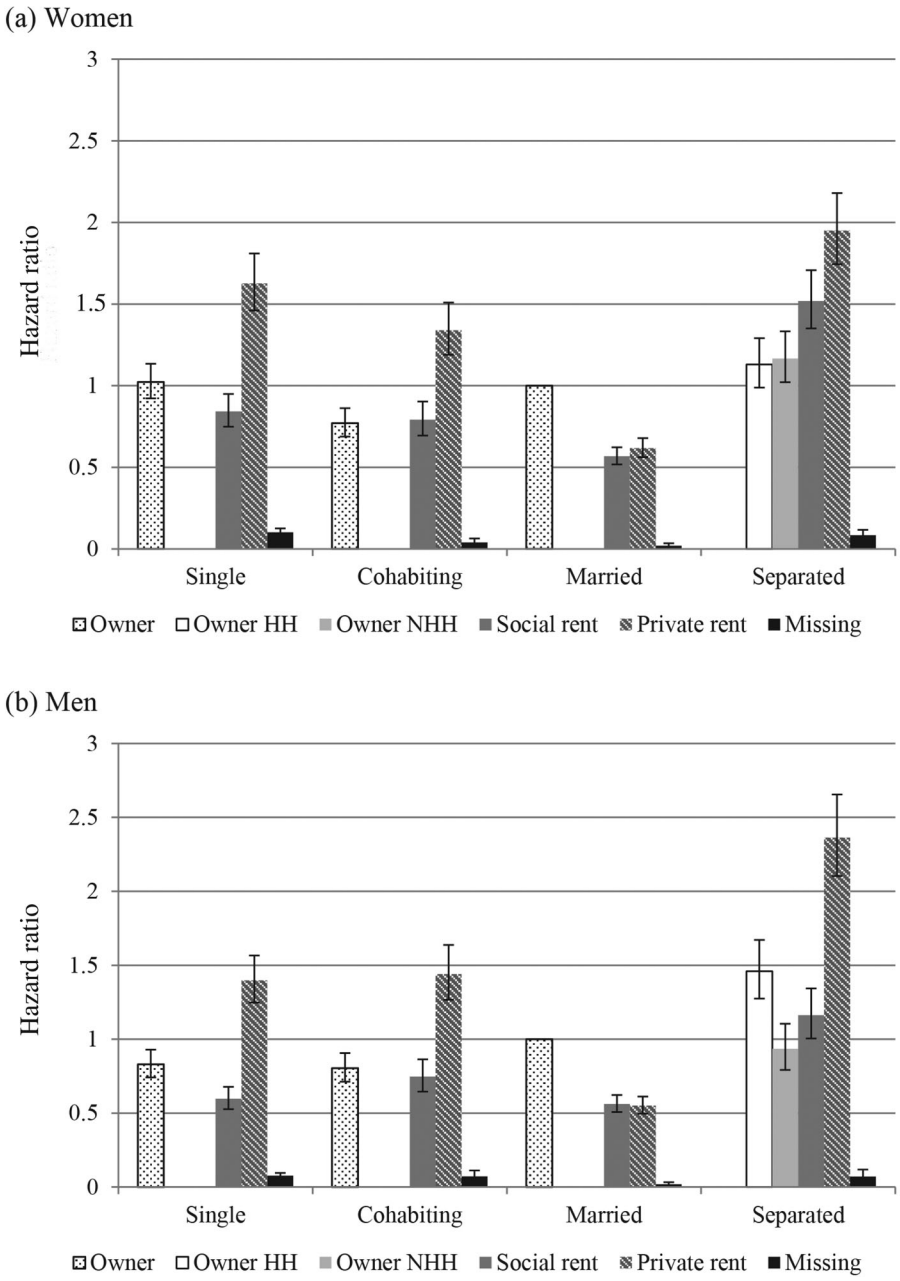

Figure 1 Relative risks of moving to different tenure types by partnership status, for (a) women and (b) men in England and Wales, 1991–2014 (Model 1)

Notes: Whiskers indicate 95 per cent confidence intervals compared with the reference category (married people moving to owner occupation). For separated people moving into owner-occupied housing, HH indicates they are the head of household, while NHH indicates they are not head of household.

Source: Authors' calculations based on data from the British Household Panel Survey (1991–2008) and UKHLS Understanding Society (2010–14).

more pronounced among women who experience several residential episodes, whereas men increasingly move to privately rented accommodation.

Finally, the coefficients of the control variables are consistent with what is expected based on previous literature (Appendix Table A3). Overall, the risk of a residential change decreases with age and with time since previous residential move. Individuals who live in a flat, a terraced house, or another dwelling type are more likely to move than those who live in a detached or semi-detached house. Additionally, the risk of a residential change is higher among highly educated individuals and during pregnancy.

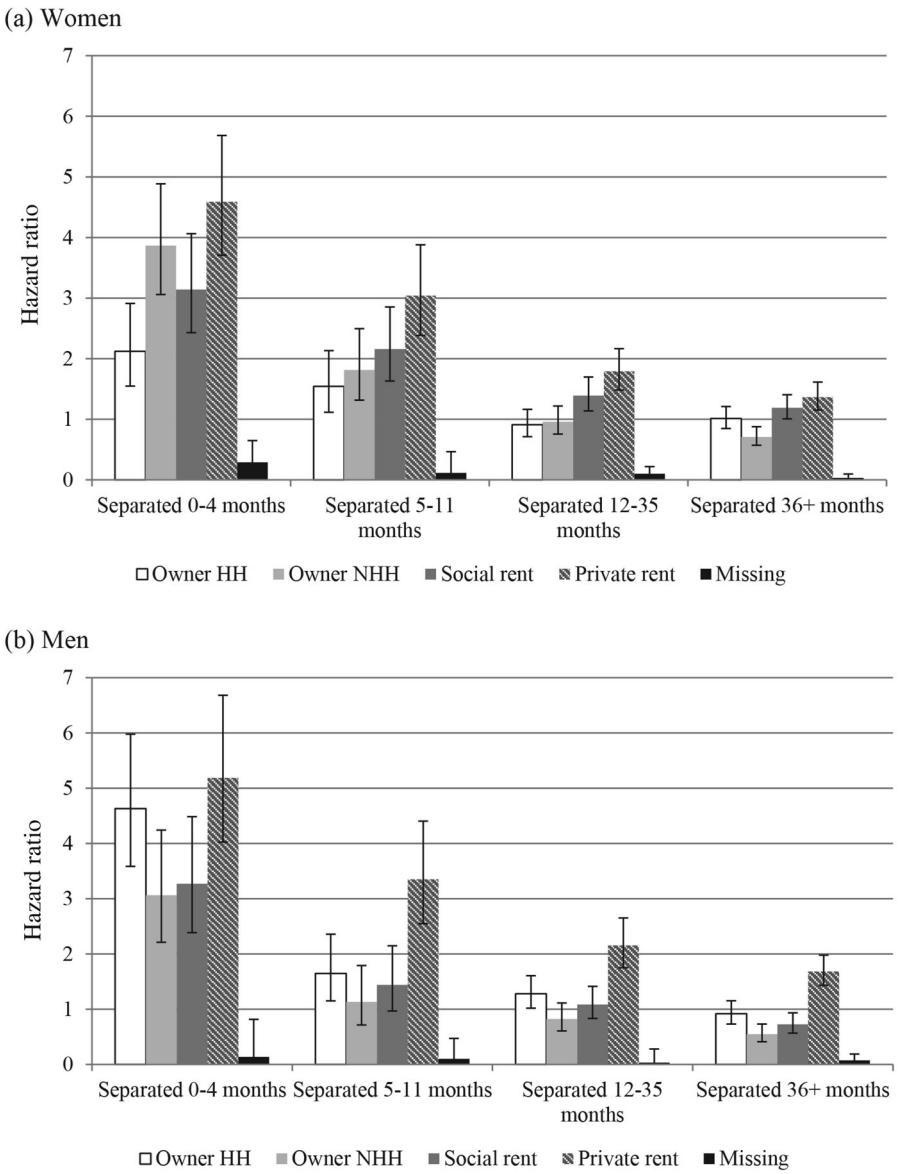

Figure 2 Relative risks of moving to different tenure types among (a) separated women and (b) separated men in England and Wales, 1991–2014, by time since separation (Model 2)

Notes: Whiskers indicate 95 per cent confidence intervals compared with the reference category (married people moving to owner occupation). For separated people moving into owner-occupied housing, HH indicates they are the head of household, while NHH indicates they are not head of household.

Source: As for Figure 1.

Conclusion and discussion

This study has focused on the effect of separation on individuals' housing tenure in England and Wales. We have extended previous literature in several ways. First, we investigated tenure changes among *all separated women and men*, not just those who are homeowners. Second, we examined *transitions to three different tenure types*: homeownership, private renting, and social renting. Third, we combined information on *residential moves* and *tenure changes*. Combining data from the BHPS and USoC allowed us to investigate a longer time span and additional respondents from younger generations than if we had only used data from the BHPS. We distinguished between moves due to separation and moves of separated individuals, and modelled separation and tenure changes jointly to account for unobserved co-determinants of these processes.

In line with our first hypothesis, we found that separated women and men are almost twice as likely to experience a tenure change as partnered individuals. The results corroborate previous studies that have shown elevated mobility levels among separated individuals (e.g., Feijten 2005; Feijten and van

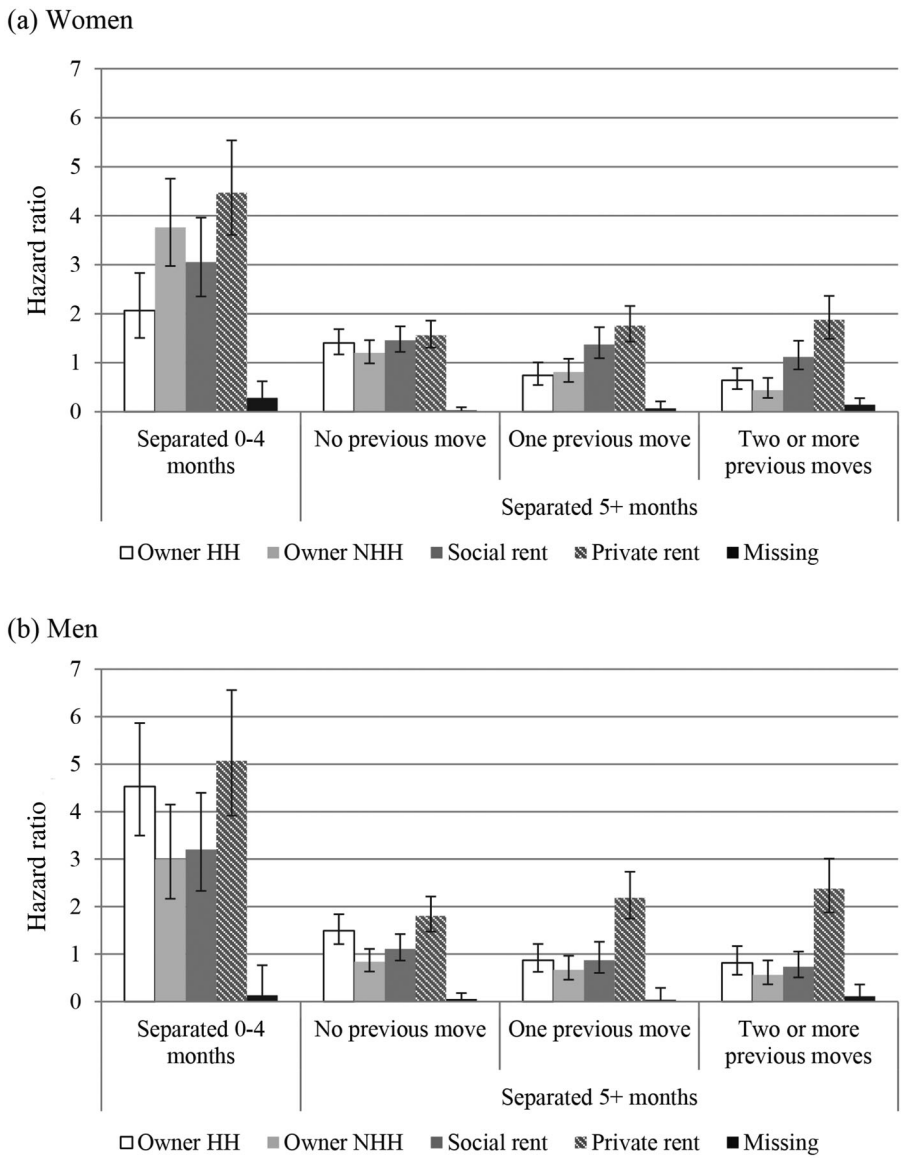

Figure 3 Relative risks of moving to different tenure types among (a) separated women and (b) separated men in England and Wales, 1991–2014, distinguishing those who moved five or more months after separation by number of previous residential moves since separation (Model 3)

Notes: Whiskers indicate 95 per cent confidence intervals compared with the reference category (married people moving to owner occupation). For separated people moving into owner-occupied housing, HH indicates they are head of household, while NHH indicates they are not head of household.

Source: As for Figure 1.

Ham 2007, 2010; Dewilde 2008; Lersch and Vidal 2014; Mikolai and Kulu forthcoming). This finding is not surprising, as separation requires that at least one of the ex-partners moves out of the joint home sometime following separation (Feijten and van Ham 2007, 2010).

We showed that separated women and men are more likely to move to private renting than other tenures, which partially supports our second hypothesis. However, there are significant gender differences in tenure type at destination. Separated women are next most likely to move to socially rented dwellings, whereas separated men are next most likely to move to homeownership, partially supporting our expectations on gender differences (Hypothesis 3). These findings suggest that men are more likely to experience a better housing situation after separation than women. Men typically earn more than women, who may also be less financially independent. Additionally, existing housing policies provide some single parents (typically women) access to a socially rented dwelling, whereas this is less likely to be an option for separated men who do not have custody of their children. Although we do

not know which partner has custody of children following separation, additional analysis showed that the most common outcomes for separated women who have children are social or private renting, followed by homeownership. By contrast, childless separated women are most likely to move to private renting, and next most likely to move to a dwelling where someone else is the homeowner. We found smaller differences between separated men who are childless and those who have at least one child.

Additional analysis (not shown) indicated that the risk of moving to social housing has a negative educational gradient for women. Separated women with low education are the most likely to move to social housing, whereas highly educated women are least likely to do so. Taken together, the results suggest that separated women are less likely to become homeowners and more likely to move to socially rented dwellings than separated men.

Social housing may thus offer security for the most vulnerable groups, especially for lower-educated women with children. By contrast, many separated men seem to be able to afford to become homeowners following separation, suggesting that separated men are usually in a better financial position than separated women. Our findings show that the differences in housing conditions of separated individuals persist over time since separation. Thus, separation has a long-term effect on individuals' housing careers, supporting our fourth hypothesis. This long-term effect is especially pertinent to women who cannot afford to become homeowners and, potentially, to those disadvantaged men who can neither afford homeownership, nor access social housing. Hypothesis 5, that homeownership rates will increase as time since separation increases, receives only little (if any) support.

Finally, we expected there to be unobserved individual characteristics that would jointly influence the risk of a separation as well as the risk of a tenure change among separated individuals (Hypothesis 6). Indeed, we found a strong positive correlation between the two processes, suggesting that unobserved factors influence both processes for women and men. We showed that ignoring such co-dependence results in overestimated moving risks for separated individuals. Such unobserved characteristics may be related to personality traits, which influence both relationship stability and moving propensities (e.g., individuals who are never satisfied with their lives or individuals who like to make a significant change after a spell of stability).

The distribution of housing stock by tenure type, as well as by house prices and rental costs, varies across different areas within England and Wales. For example, we would expect that in London, where property prices are higher compared with other areas, fewer people could afford to become homeowners and thus individuals would be more likely to rent a property. We replicated the results of the competing risks models by area type (not shown) and found that the results remained the same in all areas. However, separated women in London are somewhat more likely to move to privately rented dwellings and less likely to move to socially rented dwellings than in the national sample. Among separated men living in London, the levels of residential mobility are somewhat lower than in the national sample. Further research should determine whether low mobility levels are related to the particularity of the housing market in the capital (Clark and Huang 2003) or to relatively high incomes in London that allow men to move to an appropriate dwelling immediately after separation.

These findings contribute to the broader discussion on the consequences of divorce and separation. Previous studies have shown that divorce has a negative impact on individuals' physical and psychological well-being (Amato 2000, 2010). This study has shown that (marital and non-marital) separation also has a negative and long-lasting impact on separated individuals' housing careers. Additionally, whereas women tend to move to private or social renting following separation, separated men tend to move to private renting and some become homeowners. Thus, separation seems less detrimental for separated men's than for separated women's housing prospects.

To summarize, this study has been the first to analyse moving patterns of separated men and women by tenure type at destination and the first to distinguish between moves due to separation and moves of separated individuals. We have shown that separation has a long-term impact on men and women's housing careers. While many separated men are likely to become homeowners sometime after separation, for separated women the second most likely outcome is a move to a socially rented dwelling. Such gender differences persist over time since separation. These findings highlight the important role of housing policies in providing the most vulnerable groups with secure housing after separation. However, housing inequalities are likely to persist for as long as there is a group of vulnerable individuals who do not have access to social housing and a group of women (with children) who cannot afford to become homeowners following separation.

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Appendix

Table A1 Numbers and proportions of person-months and residential changes in England and Wales by categories of variables and gender, 1991–2014

	Women				Men			
	Person-months		Residential changes		Person-months		Residential changes	
	N	%	*N*	%	*N*	%	*N*	%
Age								
16–19	62,430	10	990	13	61,871	12	746	11
20–24	78,763	13	2,103	28	77,466	14	1,734	26
25–29	78,083	13	1,452	19	70,954	13	1,416	21
30–34	87,927	15	1,068	14	74,845	14	1,052	16
35–39	95,562	16	789	11	81,285	15	773	12
40–44	99,562	17	611	8	84,071	16	557	8
45–49	100,356	17	493	7	86,915	16	440	7
Time since previous residential change								
0–1 year (slope)	81,398	14	1,405	19	72,432	13	1,279	19
1–3 years (slope)	92,361	15	2,003	27	81,861	15	1,752	26
3–5 years (slope)	49,931	8	642	9	42,897	8	602	9
5+ years (slope)	80,336	13	653	9	63,618	12	573	9
No previous residential change	298,658	50	2,803	37	276,598	51	2,512	37
House type								
Detached	134,838	22	1,297	17	119,974	22	1,106	16
Semi-detached	210,578	35	2,083	28	186,483	35	1,909	28
Terraced	176,981	29	2,227	30	153,731	29	1,946	29
Flat	55,517	9	1,362	18	53,721	10	1,272	19
Other or missing	24,769	4	537	7	23,342	4	485	7
Partnership status								
Single	149,351	25	2,782	37	185,808	35	2,873	43
Married	76,685	13	1,204	16	64,704	12	1,072	16
Cohabiting	294,223	49	2,061	27	240,660	45	1,768	26
Separated	82,423	14	1,459	19	46,235	9	1,005	15
Order of current union								
No union	149,353	25	2,782	37	185,798	35	2,872	43
First	331,845	55	3,221	43	272,488	51	2,818	42
Second and subsequent	121,485	20	1,503	20	79,121	15	1,028	15
Pregnancy status of woman								
Not pregnant	584,483	97	7,132	95	525,256	98	6,454	96
Pregnant	18,199	3	374	5	13,877	3	264	4
Number of children								
No child	270,371	45	4,601	61	304,023	57	4,532	67
One	88,408	15	1,042	14	64,972	12	800	12
Two or more	243,904	40	1,863	25	168,412	31	1,386	21
Housing tenure								
Homeowner, head of household	73,875	12	614	8	236,560	44	1,547	23
Homeowner, not head of household	337,732	56	3,161	42	143,904	27	1,921	29
Social rent	110,333	18	1,610	21	81,767	15	1,290	19
Private rent	77,974	13	2,035	27	72,790	14	1,886	28
Missing	2,769	0	86	1	2,385	0	74	1
Area type				0				
London	81,179	13	1,046	14	70,671	13	921	14
Large city	71,310	12	823	11	61,279	11	786	12
Medium city	113,719	19	1,457	19	104,577	19	1,361	20
Town	73,364	12	923	12	67,869	13	881	13
Small town	107,551	18	1,406	19	94,183	18	1,152	17
Rural area	150,943	25	1,778	24	134,766	25	1,547	23
Missing	4,615	1	73	1	4,061	1	70	1

(*Continued*)

Table A1 Continued.

	Women				Men			
	Person-months		Residential changes		Person-months		Residential changes	
	N	%	*N*	%	*N*	%	*N*	%
Employment status								
Employed	370,138	61	4,190	56	356,717	66	4,201	63
Self-employed	27,660	5	277	4	57,529	11	581	9
In education	51,162	8	1,061	14	45,597	8	903	13
Unemployed	26,524	4	449	6	37,321	7	588	9
Other	116,055	19	1,414	19	28,841	5	321	5
Missing	11,143	2	115	2	11,400	2	124	2
Educational level								
High	116,194	19	1,754	23	112,475	21	1,644	24
Medium	125,378	21	2,008	27	138,423	26	1,986	30
Low	361,078	60	3,744	50	286,469	53	3,088	46
Period								
1991–94	100,856	17	1,175	16	94,304	18	1,094	16
1995–99	144,094	24	1,805	24	131,320	24	1,717	26
2000–04	160,071	27	1,967	26	143,101	27	1,774	26
2005–09	130,909	22	1,539	21	111,797	21	1,310	19
2010–14	66,752	11	1,020	14	56,885	11	823	12
Number of previous residential changes								
None	298,658	50	2,803	37	276,598	51	2,512	37
One	132,548	22	1,756	23	113,253	21	1,573	23
Two or more	171,477	28	2,947	39	147,556	27	2,633	39
Member of an ethnic minority group								
No	530,391	88	6,441	86	467,817	87	5,895	88
Yes	24,095	4	252	3	23,867	4	290	4
Missing	48,197	8	813	11	45,723	9	533	8
Total	602,683	100	7,506	100	537,407	100	6,718	100

Note: For further information on the variables, see the 'Variables' subsection.
Source: As for Table 1.

Table A2 Number of residential moves to different tenure types, by partnership status, and for the separated, time since separation, women and men in England and Wales, 1991–2014

	Women					
	Homeowner, head of household	Homeowner, not head of household	Social rent	Private rent	Other/ missing	Total
Single	218	1,015	508	979	62	2,782
Cohabiting	85	415	257	434	13	1,204
Married	134	1,152	365	397	13	2,061
Separated	282	291	379	486	21	1,459
Separated 0–4 months	44	80	65	95	6	290
Separated 5–11 months	40	47	56	79	3	225
Separated 12–35 months	72	76	110	142	8	408
Separated 36+ months	126	88	148	170	4	536
Total	719	2,873	1,509	2,296	109	7,506
	Men					
	Homeowner, head of household	Homeowner, not head of household	Social rent	Private rent	Other/ missing	Total
Single	389	890	460	1,075	59	2,873
Cohabiting	278	168	207	399	20	1,072
Married	916	213	317	311	11	1,768
Separated	245	157	195	396	12	1,005
Separated 0–4 months	68	45	48	76	2	239
Separated 5–11 months	32	22	28	65	2	149
Separated 12–35 months	73	47	62	123	2	307
Separated 36+ months	72	43	57	132	6	310
Total	1,828	1,428	1,179	2,181	102	6,718

Source: As for Table 1.

Table A3 Log-relative risks of a residential change by partnership status (Model 1), and, for the separated, time since separation (Model 2) and number of residential changes since separation (Model 3), women and men in England and Wales, 1991–2014

	Women			Men		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Constant	–3.218**	–3.249**	–3.248**	–3.526**	–3.550**	–3.538
Age						
16–19 (slope)	0.348**	0.339**	0.340**	0.341**	0.332**	0.332**
20–24 (slope)	–0.075**	–0.072**	–0.073**	–0.015	–0.015	–0.014
25–29 (slope)	–0.070**	–0.065**	–0.066**	–0.050**	–0.044**	–0.046**
30–34 (slope)	–0.054**	–0.052**	–0.054**	–0.044**	–0.040**	–0.041**
35–39 (slope)	–0.047**	–0.041**	–0.042**	–0.077**	–0.074**	–0.076**
40–44 (slope)	–0.063**	–0.064**	–0.064**	–0.036*	–0.032†	–0.033†
45–49 (slope)	0.007	0.013	0.011	–0.050†	–0.050*	–0.051*
Time since previous residential change						
Intercept	–1.737**	–1.761**	–1.744**	–1.627**	–1.639**	–1.635**
0–1 year (slope)	2.377**	2.411**	2.400**	2.353**	2.382**	2.382**
1–3 years (slope)	–0.314**	–0.309**	–0.313**	–0.287**	–0.285**	–0.287**
3–5 years (slope)	0.105**	0.111**	0.108**	0.092**	0.098**	0.093**
5+ years (slope)	–0.028†	–0.039**	–0.038**	–0.032†	–0.039*	–0.038*
Partnership status						
Single	0.367**	0.403**	0.393**	0.176**	0.198**	0.190**
Married (ref)	–	–	–	–	–	–
Cohabiting	0.149**	0.169**	0.158**	0.212**	0.225**	0.218**
Separated	0.606**			0.654**		

(*Continued*)

Table A3 Continued.

	Women			Men		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Time since separation						
0–4 months	–	1.043**	1.035**	–	1.171**	1.166**
5–11 months	–	0.857**	–	–	0.596**	–
12–35 months	–	0.353**	–	–	0.412**	–
36+ months	–	0.283**	–	–	0.148†	–
Separated 5+ months ago by number of previous residential changes since separation						
No previous residential changes	–	–	0.454**	–	–	0.306**
One previous residential change	–	–	0.396**	–	–	0.325**
Two+ previous changes	–	–	0.283**	–	–	0.388**
House type						
Detached	0.018	0.010	0.012	–0.048	–0.042	–0.042
Semi-detached (ref)	–	–	–	–	–	–
Terraced	0.095**	0.095**	0.094**	0.101**	0.109**	0.108**
Flat	0.438**	0.438**	0.440**	0.421**	0.441**	0.435**
Other or missing	0.595**	0.586**	0.590**	0.409**	0.424**	0.420**
Order of current union						
First (ref)	–	–	–	–	–	–
Second+	0.233**	0.211**	0.214**	0.094*	0.057	0.069
Pregnancy status of woman						
Not pregnant (ref)	–	–	–	–	–	–
Pregnant	0.264**	0.283**	0.279**	0.427**	0.440**	0.439**
Number of children						
No child (ref)	–	–	–	–	–	–
One	–0.033	–0.021	–0.020	0.182**	0.187**	0.185**
Two or more	–0.068†	–0.070†	–0.070†	0.200**	0.188**	0.191**
Housing tenure						
Homeowner, household head (ref)	–	–	–	–	–	–
Homeowner, not household head	0.205**	0.222**	0.229**	0.471**	0.499**	0.498**
Social rent	0.363**	0.395**	0.395**	0.649**	0.674**	0.672**
Private rent	0.726**	0.753**	0.756**	0.813**	0.840**	0.836**
Missing	0.752**	0.777**	0.777**	0.892**	0.899**	0.906**
Area type						
London	–0.066	–0.064	–0.065	–0.110†	–0.107†	–0.108†
Large city (ref)	–	–	–	–	–	–
Medium city	0.072	0.070	0.071	0.009	0.009	0.008
Town	0.051	0.046	0.049	0.027	0.028	0.025
Small town	0.137**	0.137**	0.136**	0.053	0.046	0.043
Rural area	0.067	0.064	0.066	–0.033	–0.031	–0.033
Missing	–0.065	–0.066	–0.069	0.138	0.147	0.156
Employment status						
Employed (ref)	–	–	–	–	–	–
Self-employed	0.039	0.036	0.037	0.051	0.048	0.048
In education	0.189**	0.197**	0.192**	0.395**	0.401**	0.400**
Unemployed	0.086	0.075	0.076	0.002	0.010	0.011
Other	0.122**	0.121**	0.119**	–0.070	–0.062	–0.065
Missing	–0.148	–0.151	–0.151	0.158	0.165†	0.162†
Educational level						
High	0.168**	0.165**	0.166**	0.122**	0.119**	0.120**
Medium (ref)	–	–	–	–	–	–
Low	–0.171**	–0.179**	–0.175**	–0.204**	–0.205**	–0.204**
Member of an ethnic minority group						
No (ref)	–	–	–	–	–	–
Yes	–0.233**	–0.219**	–0.227**	–0.219**	–0.220**	–0.216**
Missing	–0.220**	–0.224**	–0.225**	–0.265**	–0.265**	–0.265**

(*Continued*)

Table A3 Continued.

	Women			Men		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Period						
1991–94 (ref)	–	–	–	–	–	–
1995–99	–0.030	–0.040	–0.039	–0.016	–0.030	–0.034
2000–04	–0.120**	–0.124**	–0.124**	–0.103*	–0.113*	–0.116*
2005–09	–0.222**	–0.241**	–0.236**	–0.210**	–0.231**	–0.232**
2010–14	0.123*	0.123*	0.123*	0.041	0.009	0.007
Number of previous residential changes						
Fewer than two (ref)	–	–	–	–	–	–
Two or more	–0.083*	–0.075*	–0.067†	0.127**	–0.100†	–0.102*
Standard deviation of residuals	0.332**	0.336**	0.337**	0.343**	0.332**	0.330**
Correlation between residuals	0.543**	0.476**	0.489**	0.842**	0.768**	0.770**
ln-L	–56,388.6	–56,308.9	–56,323.5	–49,683.1	–49,600.9	–49,607.6

†$p < 0.1$; *$p < 0.05$; **$p < 0.01$.
Note: All models are simultaneous event history models of the risk of a residential change and the risk of separation (results of the separation equation are shown in Appendix Table A4). Ref indicates the reference category.
Source: As for Table 1.

Table A4 Log-relative risks of separation for women and men in England and Wales, 1991–2014 (corresponding to the results of the residential move equation presented in Appendix Table A3)

	Women			Men		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Constant	–1.821**	–1.818**	–1.818**	–3.100**	–3.118**	–3.117**
Union duration						
0–1 year (slope)	0.995**	0.995**	0.994**	0.715**	0.725**	0.724**
1–3 years (slope)	–0.131†	–0.130†	–0.130†	–0.104	–0.105	–0.106
3–5 years (slope)	0.042	0.043	0.043	–0.138*	–0.136*	–0.136*
5+ years (slope)	–0.044**	–0.045**	–0.045**	–0.013†	–0.014†	–0.014†
Union type						
Cohabitation (ref)	–	–	–	–	–	–
Marriage	–0.652**	–0.653**	–0.653**	–0.625**	–0.624**	–0.624**
Pregnancy status of woman						
Not pregnant (ref)	–	–	–	–	–	–
Pregnant	–1.336**	–1.337**	–1.336**	–1.808**	–1.814**	–1.814**
Number of children						
No child (ref)	–	–	–	–	–	–
One	–0.167**	–0.169**	–0.168**	–0.048	–0.054	–0.053
Two or more	–0.170**	–0.172**	–0.171**	–0.147†	–0.151†	–0.150†
House type						
Detached	–0.044	–0.042	–0.042	–0.059	–0.055	–0.055
Semi-detached (ref)	–	–	–	–	–	–
Terraced	0.081	0.082	0.082	0.045	0.044	0.043
Flat	0.422**	0.421**	0.422**	0.304**	0.307**	0.305**
Other or missing	0.417**	0.418**	0.419**	0.447**	0.451**	0.450**
Housing tenure						
Homeowner, household head (ref)	–	–	–	–	–	–
Homeowner, not household head	–1.732**	–1.739**	–1.739**	0.260*	0.266*	0.266*
Social rent	–0.911**	–0.912**	–0.912**	0.280**	0.286**	0.286**
Private rent	–1.069**	–1.066**	–1.067**	0.066	0.081	0.080
Missing	–0.526†	–0.501†	–0.508†	0.806*	0.826*	0.825*

(*Continued*)

Table A4 Continued.

	Women			Men		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Area type						
London	–0.056	–0.053	–0.054	–0.098	–0.092	–0.090
Large city (ref)	–	–	–	–	–	–
Medium city	0.056	0.054	0.054	0.137	0.141	0.141
Town	0.103	0.102	0.103	–0.021	–0.018	–0.017
Rural area	–0.006	–0.006	–0.007	0.154	0.160	0.160
Small rural area	0.271*	0.271*	0.271*	0.067	0.076	0.076
Missing	0.095	0.098	0.097	0.462	0.459	0.462
Employment status						
Employed (ref)	–	–	–	–	–	–
Self-employed	–0.157	–0.155	–0.157	0.245**	0.247**	0.247**
In education	0.428*	0.429*	0.428*	0.770**	0.778**	0.777**
Unemployed	0.252†	0.254†	0.253†	0.173	0.173	0.173
Other	–0.207**	–0.208**	–0.208**	0.307*	0.311*	0.310*
Missing	0.268	0.269	0.271	–0.381	–0.374	–0.373
Educational level						
High	–0.257*	–0.257*	–0.257*	–0.166	–0.168	–0.168
Medium (ref)	–	–	–	–	–	–
Low	0.098	0.101	0.101	–0.047	–0.045	–0.044
Member of an ethnic minority group						
No (ref)	–	–	–	–	–	–
Yes	0.032	0.033	0.031	0.031	0.033	0.033
Missing	–0.058	–0.049	–0.053	0.801**	0.804**	0.803**
Order of current union						
First (ref)	–	–	–	–	–	–
Second+	–0.121	–0.123	–0.123	0.152	0.151	0.153†
Age at union formation						
16–19 (ref)	–	–	–	–	–	–
20–24	–0.080	–0.081	–0.080	0.160	0.160	0.160
25–29	–0.363**	–0.362**	–0.362**	–0.157	–0.154	–0.155
30–34	–0.452**	–0.454**	–0.453**	–0.211†	–0.208†	–0.209†
35+	–0.753**	–0.754**	–0.754**	–0.311**	–0.309**	–0.309**
Period						
1991–94 (ref)	–	–	–	–	–	–
1995–99	–0.154†	–0.153†	–0.153†	–0.096	–0.094	–0.094
2000–04	0.057	0.059	0.058	–0.023	–0.020	–0.021
2005–09	0.124	0.125	0.125	0.013	0.017	0.016
2010–14	–1.103**	–1.107**	–1.107**	–1.093**	–1.096**	–1.097**
Standard deviation of residuals	0.751**	0.757**	0.758**	0.585**	0.594**	0.591**

†$p < 0.1$; *$p < 0.05$; **$p < 0.01$.
Notes: Ref indicates the reference category. The models correspond to those shown in Appendix Table A3 (Model 1—risk of a residential change by partnership status, Model 2—introducing 'time since separation' for the separated, Model 3—introducing 'number of previous residential changes since separation' for those who separated 5+ months ago).
Source: As for Table 1.

Table A5 Results of sensitivity analyses: excluding episodes and individuals from Understanding Society. Descriptive statistics, and relative risks from simple event history models and competing risks models

	Women		Men	
Descriptive statistics				
Number of events	6,243		5,700	
Number of person-months	521,921		468,983	
Number of subjects	5,004		4,695	
Event history model	Model 1	Model 2	Model 1	Model 2
Married (ref)	–	–	–	–
Single	1.562**	1.606**	1.420**	1.447**
Cohabiting	1.282**	1.307**	1.343**	1.363**
Separated	2.147**	–	2.491**	–
Separated 0–4 months	–	5.535**	–	6.688**
Separated 5+ months	–	1.866**	–	2.094**
Competing risks model				
Homeowner × married (ref)	–		–	
Homeowner × single	1.125†		0.996	
Homeowner × cohabiting	0.860*		0.857†	
Homeowner × separated	1.318**		1.510**	
Social rent × single	0.926		0.731**	
Social rent × cohabiting	0.899		0.852	
Social rent × married	0.586**		0.582**	
Social rent × separated	1.818**		1.599**	
Private rent × single	1.758**		1.674**	
Private rent × cohabiting	1.490**		1.603**	
Private rent × married	0.635**		0.565**	
Private rent × separated	2.392**		3.172**	
Missing × single	0.134**		0.104**	
Missing × cohabiting	0.050**		0.086**	
Missing × married	0.024**		0.023**	
Missing × separated	0.119**		0.107**	

†$p < 0.1$; *$p < 0.05$; **$p < 0.01$.
Notes: Models are controlled for age, period, time since previous residential change, and number of previous residential changes. Ref indicates the reference category. Model 1—risk of a residential change by partnership status; Model 2—introducing time since separation for separated individuals.
Source: As for Table 1.