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Belonging to the neighbourhood, residential mobility, and the transition to parenthood

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The sense of belonging to the current neighbourhood may play a role in the transition to parenthood by indicating a feeling of being 'at home' and having access to social resources. However, previous research has indicated that individuals often move house in anticipation of parenthood, likely altering their connection to the neighbourhood in the process. With data from the UK Household Longitudinal Study (2009–23) and using logit regression, we examine the likelihood of a first birth. The results reveal that individuals with a higher sense of belonging to their neighbourhood are more likely to have a first child: especially recent movers compared with long-term residents. Furthermore, while long-distance movers generally show a lower probability of becoming parents, those with a high sense of belonging are as likely as short-distance movers to become parents. These findings suggest that socio-spatial factors play a role in the transition to parenthood.

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Keywords: parenthood transition; sense of belonging; feeling at home; settling down; local social capital; residential mobility; first birth; family formation; Understanding Society

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Introduction

In the UK the mean age at first birth for women reached 30.7 years in 2020, following a decade-long trend of increasingly delayed parenthood (Human Fertility Database 2023) and rising childlessness (Ermisch 2021). The changing timing of the transition to parenthood is linked to an elongation of young adulthood and delays in precursory life transitions. From a life-course perspective, five components interact to shape life trajectories: timing, linked lives, agency, historical time, and geographical place (Elder et al. 2003). Geographical place has received less attention in fertility research than the other four aspects. Yet, we are embedded in a socio-spatial context, and the place and people around us influence our life course, including family formation (Kulu and Milewski 2007). Globalization and the 'death of the local' (Wellman 2001; Morgan 2004) raise questions about the current significance of local connections. In addition, improved communication technologies have made it easier to maintain dispersed social networks (Hampton et al. 2009). Nevertheless, evidence suggests that human relationships are spatially sticky (Rutten et al. 2010): local ties and their benefits cannot be fully replaced by distant social networks. Therefore, incorporating individuals' subjective connection to their neighbourhood into studies of the transition to parenthood can highlight the continuing importance of the local environment for fertility and add a valuable spatial dimension to this area of research.

A person's sense of belonging can be used to capture their subjective connection to the neighbourhood. The sense of belonging to a geographically defined space reflects emotional and psychological aspects, such as a feeling of being 'at home' (Antonsich 2010). Therefore, it could be assumed that when a geographical place fosters a strong sense of belonging, it becomes easier for individuals living there to settle down and prepare for parenthood. Furthermore, the sense of belonging can indicate inclusion

in local social networks and access to social resources that might facilitate parenthood. We ask: *How is the sense of belonging to the neighbourhood associated with the transition to parenthood?* To explore this question we use data from the UK Household Longitudinal Study (UKHLS, also known as Understanding Society), 2009–23, which includes questions from the Neighbourhood Cohesion Index (Buckner 1988) on respondents' perceived sense of belonging to their neighbourhood.

Another critical geographical aspect related to life trajectories is that most individuals change neighbourhoods over the course of their lives. Prospective parents often adjust their neighbourhood and dwelling (Ermisch and Steele 2016), seeking out family-friendly housing with more space, more bedrooms, access to a garden, higher (perceived) neighbourhood quality, higher school quality, or better access to childcare (Kulu and Vikat 2007). While these adjustments may make housing more suitable for parenthood, they often come at a social cost. Moving to a new neighbourhood disrupts local social ties and sense of familiarity. However, short-distance dwelling adjustments within the neighbourhood may not entail such a penalty. Also, individuals may choose a neighbourhood where they feel more at home, thereby increasing their sense of belonging. In our study, we examine the relationships between the sense of belonging to the current neighbourhood, residential mobility, and the transition to parenthood. Our analysis is enriched by distinguishing recent residential movers from longer-term residents and by considering the distance moved.

Background

Belonging to the neighbourhood and the transition to parenthood

'Belonging' is a useful concept as it is both intuitively understood and highly desired (Buonfino and Thomson 2007). Antonsich (2010) noted that belonging covers two related but distinct concepts: place belongingness and the politics of belonging. The first aspect, place belongingness, involves the sense of being at home in a specific place and the associated feelings of comfort, security, familiarity, and stability (Savage et al. 2004). The question of where we belong is an integral part of self-formation, connecting identity and geography (Antonsich 2009). However, living in or being from a place is not enough to form a strong sense of belonging. The geographical area must also provide enough resources to be functional, and individuals must have access to them. Thus, the second aspect, the politics of belonging, is the access to resources through socio-spatial inclusion (Antonsich 2010). Insiders have access to social resources, increasing their sense of belonging, whereas outsiders tend to face exclusion. Access to locally acquired resources falls into the broader discussion of local social capital (Kan 2007). Thus, questions about the sense of belonging to the neighbourhood capture both the feeling of being at home and the level of local social capital.

These two aspects of belonging—feeling at home and local social capital—should both positively influence the transition to parenthood. First, feeling at home is a subjective and emotional experience, which also relates to settling down: a more practical or logistical action of establishing more permanent residence, committing to a geographical place, committing to a long-term job, or building a family. Astone et al. (1999) theorized that couples may become parents at a stage in life in which they wish to settle down and seek out geographical places that fulfil the desire for emotional stability and feeling at home. This is like the concept often described as 'nesting' in biology or lay English. Qualitative work has found that prospective parents report the desire to be emotionally and financially ready in a suitable home base before pursuing parenthood (Hayford et al. 2024). Being at the correct life stage, rather than the correct chronological age, defines individuals' ideas of the appropriate time to become parents (Datta et al. 2023). This is supported by quantitative research from Finland in which a significant number of individuals stated that feeling unsettled or unstable was a major reason for not wanting to have (more) children (Savelieva et al. 2023). In addition, a sense of belonging is intertwined with social trust (Helliwell and Putnam 2004), reflecting how individuals feel integrated, engaged, and supported in their neighbourhood. Research has shown that social trust within a region is associated with higher fertility (Aassve et al. 2021). In the South Korean context, individuals with a higher sense of trust are also more likely to want a child (Kwag et al. 2024), but this may not be the case in the Swedish context (Gortfelder and Neyer 2024). Furthermore, previous studies have shown that better overall psychological well-being is associated with the transition to parenthood (Spéder and Kapitány 2009; Aassve et al. 2016) and that not feeling lonely is associated with more positive fertility intentions (Artamonova et al. 2024). Overall, this research suggests that feeling at home and the positive psychological benefits derived from a person's residential location likely encourage parenthood.

The second aspect of belonging to the neighbourhood—local social capital—may also positively encourage the transition to parenthood. Previous studies of social networks and the transition to parenthood have found that closer, long-term relationships (e.g. kin networks) provide most of the resources that enable childbearing (Stulp and Barrett 2021). However, there is little supporting evidence to suggest that non-kin instrumental support changes fertility intentions (Artamonova et al. 2024). Therefore, we do not suggest that connections to the local neighbourhood are equivalent to close-knit kin relationships but rather that they provide an additional source of support. It is also reasonable to assume that having kin in close proximity will increase the sense of belonging to the neighbourhood.

Rather, a measure such as the sense of belonging to the neighbourhood is useful, as the benefits from local social capital can be difficult to quantify individually (Ahn and Davis 2020). In regard to parenthood, locally derived social resources include information exchange, assistance with psychological strain, informal support and childcare, improved well-being, and having someone to call on in case of emergency (Bühler and Philipov 2005; Bernardi and Klaerner 2014). Not all these resources will be essential to all prospective parents at all times, but the access (or knowledge of the access) might be important. Therefore, belonging suggests an embeddedness in social networks. Additionally, embeddedness in social networks can smooth out the negative effects of economic volatility or uncertainty, encouraging fertility (Bühler and Philipov 2005). Evidence from studies not focusing on fertility shows that in the UK, people in socio-economically disadvantaged groups depend on local social connections much more than their advantaged contemporaries for job opportunities, economic assistance, and informal support (Smith 2005; Preece 2018). A strong sense of belonging to the neighbourhood therefore signifies access to locally derived resources that aid in the transition to parenthood.

Residential mobility and the transition to parenthood

For many young adults, the first residential move involves leaving the parental home in pursuit of education or employment opportunities (Coulter 2023). In the UK, higher education and career opportunities are geographically clustered. Individuals who do not reside near these opportunities must relocate (with the growing exception of those in remote education or work). Following education this also often involves a secondary move to a large urban area where career opportunities are more prevalent. In the UK's dense urban areas, housing tends to be scarcer and more expensive, and populations are more transient. Thus, young adults moving to large urban areas in search of career opportunities may already be intending to leave after establishing themselves in a profession (Coulter et al. 2011). However, this typical path is not followed by all young adults. Socio-economically advantaged young adults who grow up near educational and career opportunities may be able to stay longer in their parental home, delaying the start of their residential mobility career. At the other end of the socio-economic scale, disadvantaged groups in the UK are less mobile and less likely to enrol in higher education (Pelikh and Kulu 2018). They tend to stay longer in the parental home and move more locally. Some young adults, more often from South Asian backgrounds, remain in the parental home during the transition to parenthood, as multigenerational living is more normatively accepted (Finney 2011).

Co-residential partnerships also play an important role in young adult residential mobility. At the start of cohabitation or marriage, at least one partner (if not both) must leave their current dwelling (Coulter 2023). Thus, most individuals will have moved house before any moves in anticipation of parenthood. These previous moves shape the structural constraints and individual choices of prospective parents. For instance, when considering the residential choice best fit for parenthood, individuals who have relocated for career prospects in a different part of the country will experience distinct residential choices and opportunities compared with those who have stayed in proximity to their parental home. In essence, the association between residential mobility and parenthood begins well before the relocations directly tied to impending parenthood.

Some residential moves are reciprocally related to the entry to parenthood, often through the search for adequate housing (Kulu and Steele 2013). Young couples, anticipating housing needs, often move house to pursue their fertility desires (Ermisch and Steele 2016), most frequently shortly before the birth of the first child (Clark and Davies Withers 2009). Empirical studies have found that short-distance moves are associated with preparation for parenthood (Kulu and Milewski 2007), whereas longer-distance residential moves are tied to education and employment opportunities (Lundholm et al. 2004).

In the UK, residential mobility in anticipation of parenthood often involves moving from the urban core to surrounding suburban and exurban areas (Kulu et al. 2009). These areas typically exhibit a higher availability of housing with characteristics beneficial for childrearing—for example, in terms of size, number of bedrooms, having a garden, and good access to childcare and high-quality schools (Kulu and Vikat 2007)—while still being within commuting distances of good employment opportunities. In cases where acquiring suitable housing is not possible, individuals may delay parenthood (Mulder and Wagner 2001; Feijten and Mulder 2002; Clark 2012). Finding housing fit for parenthood may be a lengthy process, as it can involve several trade-offs, including potentially leaving a familiar area with local social connections.

Other aspects of residential mobility may intervene in the transition to parenthood. People living further away from family may choose to move closer before parenthood (Mulder 2007). Relatives can help with childcare, and prospective parents may want their relatives to play an active role in their children's lives. The desire to stay near family may delay parenthood if housing or job opportunities are limited. In addition, homeownership is an important driver of residential mobility, particularly in the UK (Saunders 1990). Homeownership often acts as a prerequisite for parenthood due to the stability it provides (Tocchioni et al. 2021), whereas private renters experience instability through price hikes and evictions (Hoolachan et al. 2017). The desire for homeownership may play a particularly important role, with private renters being much more likely to move than homeowners (Böheim and Taylor 2002). Thus, individuals in the UK, particularly in dense urban areas, may make longer-distance moves, generally towards the suburbs (Kulu and Boyle 2009), seeking out this prerequisite homeownership.

Intersection of belonging, residential mobility, and parenthood

Residential mobility comes with social costs. Future parents often face the trade-off between maintaining local social ties and adequate residential situations. The sense of belonging to the neighbourhood increases with time at the current residence (Kearns and Parkinson 2001; Clark and Coulter 2015), further raising the social cost of residential moves and encouraging individuals to stay (Belot and Ermisch 2009). On the one hand, short-distance moves that allow couples to fulfil their housing preferences without disrupting their sense of belonging may be socially optimal, depending on individual and structural constraints.

On the other hand, if the neighbourhood is inadequate for family formation (Mikolai et al. 2020), the desire to give future children a safe place to grow up may override the loss of local social ties and encourage longer-distance moves. Individuals who relocate to find child-friendly housing may feel a stronger sense of belonging if their new residential situation offers more emotional stability and security. Moreover, moving to an area with the intention of starting a family may encourage individuals to invest more in their community, thereby enhancing their sense of belonging. Consequently, during the transition to parenthood, a higher sense of belonging after a residential move may indicate that the new neighbourhood is more suitable for settling down. This makes establishing a causal direction difficult. Therefore, it is unlikely that either factor (a sense of belonging or the transition to parenthood) independently predicts the other. Instead, it is more likely that this is a two-way, multidimensional process involving feeling at home and experiencing a first birth.

In light of the theoretical framework and previous findings, our first hypothesis is that sense of belonging will be positively associated with the transition to parenthood (H1). Based on previous literature, recent movers will be more likely to have a first child than long-term residents (H2). Furthermore, those moving short distances, which are more associated with dwelling adjustment, will display a higher likelihood of becoming parents than long-distance movers (H3).

When considering the transition to parenthood, a stronger sense of belonging among recent movers would signify that they have found a place in which they feel at home and have begun the process of settling down and building local social networks. Therefore, we expect the sense of belonging to the neighbourhood to be more strongly associated with having a first child for recent movers, as compared with those who have lived in their current residence for more than four years (H4).

Finally, since short-distance movers may retain their sense of belonging from their previous neighbourhood (whereas long-distance movers cannot), the relationship between moving distance and likelihood of having a first child should change with the sense of belonging to the neighbourhood. We expect that at low levels of belonging, short-distance movers (those moving less than 4 km) will display a greater chance of having a first child than long-

distance movers. However, as the sense of belonging increases, this gap will narrow, as the negative impact of long-distance moves will be reduced due to the positive benefits associated with a higher sense of belonging (H5).

Data and measures

Understanding Society is a yearly panel survey that started in 2009 (University of Essex 2023). It collects a sample of the UK's four constituent countries using a clustered and stratified probability approach (Lynn 2009), with households continuing on from the British Household Panel Survey and ethnic minority boosts added in subsequent waves. After attrition of about 15.0 per cent from Wave 1 to Wave 2, subsequent waves have seen an average of less than 2.0 per cent attrition. Understanding Society is generally representative of UK society (Benzeval et al. 2020), and post-stratification weights are provided for dealing with survey design, non-response, and attrition (Platt et al. 2021), with the survey designers at Understanding Society giving particular attention to the issue of attrition due to young people, separations, and moving house (Mitchell et al. 2015). The survey uses flexibility in the mode and timing of the survey to lower the risk of non-participation due to the recent birth of a child or moving house. Nevertheless, residential moving events are underrepresented in Understanding Society (Ermisch 2023). However, as our focus revolves around the significance of belonging to the neighbourhood by duration of residence in the current dwelling, and not moving events themselves, we anticipate that any within-group bias will be relatively minimal.

Our analytical sample comprises childless individuals of childbearing age (18–45) with co-residential partners. It includes only those surveyed during waves where the question about belonging to the current neighbourhood was posed (Waves 1, 3, 6, 9, and 12), and individuals' characteristics are drawn from these five waves. We specifically concentrate on respondent-wave observations involving cohabiting individuals because, for at least one partner, the move into co-residence is likely to have involved leaving the local area, reshaping their relationship with the neighbourhood. We exclude observations involving households that relocated between the interview and the birth of their first child (n = 10) due to the uncertainty in assessing their connection to the new area. Additionally, observations from individuals reporting a non-feasible birthdate for a child (n = 15) are removed. The final sample consists of 12,086 individuals (6,256 women and 5,830 men), with a total of 18,811 respondent-wave observations (Table 1). Individuals may appear once (40.6 per cent), twice (29.8 per cent), or three to five times (29.6 per cent), with 53.8 per cent of household observations involving multiple individuals within the sample residing together.

Dependent variable: First birth event

The binary outcome under consideration is whether a first birth took place during the period between the interview enquiring about the sense of belonging to the current neighbourhood and the subsequent interview (approximately one year later). First births are identified by enumeration in the subsequent interview of a new household member through childbirth. For instance, when examining Wave 3, a first birth is deemed to have occurred if it took place between the interview date for Wave 3 and the interview date for Wave 4. The sample includes 1,624 first birth events. We conducted a robustness analysis for conceptions of first births (the child's date of birth lagged by nine months), since it is plausible that knowledge of the conception of the first child increases the sense of belonging to the neighbourhood. Nevertheless, the outcomes remained consistent, indicating that the relationship between belonging and parenthood starts before conception.

Explanatory variables

Respondents evaluate the statement *I feel like I belong to this neighbourhood* on a five-point Likert scale from 'strongly disagree' (1) to 'strongly agree' (5). Throughout this paper, we use the term 'neighbourhood', as it aligns with the geographical boundary specified in the question, although the boundaries of the neighbourhood are subjectively defined by the respondent. We use the *Belong to the neighbourhood* variable on a discrete scale but note that results are similar when it is included as a two-category variable (Table S1, supplementary material). Figure 1 displays the distribution of responses in the analytical sample. Table 1 shows the mean values of belonging to the neighbourhood by each control variable. A strong correlation in sense of belonging is observed within couples, as illustrated by the chi-square residuals of partners' sense of belonging (see Figure S1, supplementary material). We also ran a dyadic analysis but found a similar pattern to the individual analysis.

Table 1 Summary statistics for the analytical samples

	Full analytical sample N = 18,811 respondent-wave observations		Subsample including distance moved N = 10,453 respondent-wave observations	
	Frequency (percentage)	Belonging: Mean (SD)	Frequency (percentage)	Belonging: Mean (SD)
Belong to the neighbourhood	–	3.51 (0.91)	–	3.54 (0.90)
First birth event				
Yes	8.6	3.56 (0.89)	7.9	3.56 (0.91)
No	91.4	3.51 (0.91)	92.1	3.54 (0.90)
Recent move				
Less than four years	56.3	3.44 (0.91)	–	–
Four years or more	43.3	3.61 (0.89)	–	–
Distance moved				
Recent, 4 km or more	–	–	16.8	3.33 (0.93)
Recent, less than 4 km	–	–	16.5	3.43 (0.88)
Long-term resident	–	–	66.7	3.61 (0.89)
Parental distance				
30 minutes or less	41.5	3.57 (0.89)	43.9	3.59 (0.89)
More than 30 minutes	41.2	3.46 (0.92)	39.7	3.49 (0.92)
Unknown/deceased	17.3	3.52 (0.93)	16.4	3.53 (0.93)
Sex				
Women	52.5	3.53 (0.93)	53.7	3.56 (0.92)
Men	47.4	3.50 (0.89)	46.3	3.51 (0.89)
Age				
18–24	10.5	3.34 (0.98)	8.3	3.32 (0.98)
25–29	22.2	3.40 (0.92)	18.2	3.41 (0.92)
30–34	21.7	3.47 (0.90)	20.2	3.48 (0.90)
35–39	19.2	3.59 (0.88)	20.5	3.59 (0.89)
40–45	26.4	3.65 (0.87)	32.8	3.67 (0.86)
Survey wave				
Wave 1	20.6	3.45 (0.93)	–	–
Wave 3	26.2	3.55 (0.88)	35.5	3.55 (0.89)
Wave 6	26.6	3.58 (0.90)	32.7	3.59 (0.89)
Wave 9	15.6	3.47 (0.96)	19.9	3.48 (0.96)
Wave 12	10.9	3.42 (0.88)	11.9	3.46 (0.88)
Activity status				
Employed	83.6	3.52 (0.89)	84.5	3.55 (0.89)
Unemployed	5.5	3.43 (1.02)	4.6	3.45 (1.05)
Inactive	8.2	3.52 (0.97)	8.7	3.53 (0.98)
Student	2.6	3.36 (0.98)	2.2	3.31 (1.00)
Educational attainment				
Low	27.3	3.54 (0.91)	27.1	3.57 (0.89)
Medium	17.8	3.50 (0.90)	18.7	3.55 (0.89)
High	54.8	3.50 (0.91)	54.2	3.52 (0.92)
Housing tenure				
Owned	62.5	3.58 (0.87)	65.2	3.61 (0.86)
Private rent	26.3	3.38 (0.95)	23.3	3.36 (0.95)
Social rent	11.1	3.43 (0.99)	11.5	3.47 (0.99)
Urbanicity				
Rural	18.4	3.69 (0.89)	19.7	3.71 (0.89)
Urban	81.6	3.47 (0.91)	80.3	3.50 (0.91)

Note: SD refers to the standard deviation. Sample comprises childless individuals aged 18–45 with a co-residential partner.
Source: Authors' analysis of UKHLS 2009–23, unweighted.

To study residential mobility, we use time at current residence. Time at current residence is asked at the first interview, and residential histories are updated in each subsequent interview. Using moving dates from these residential histories, we calculate time at current residence at the time of each interview. From conducting sensitivity analyses on the relationship between length of time at current

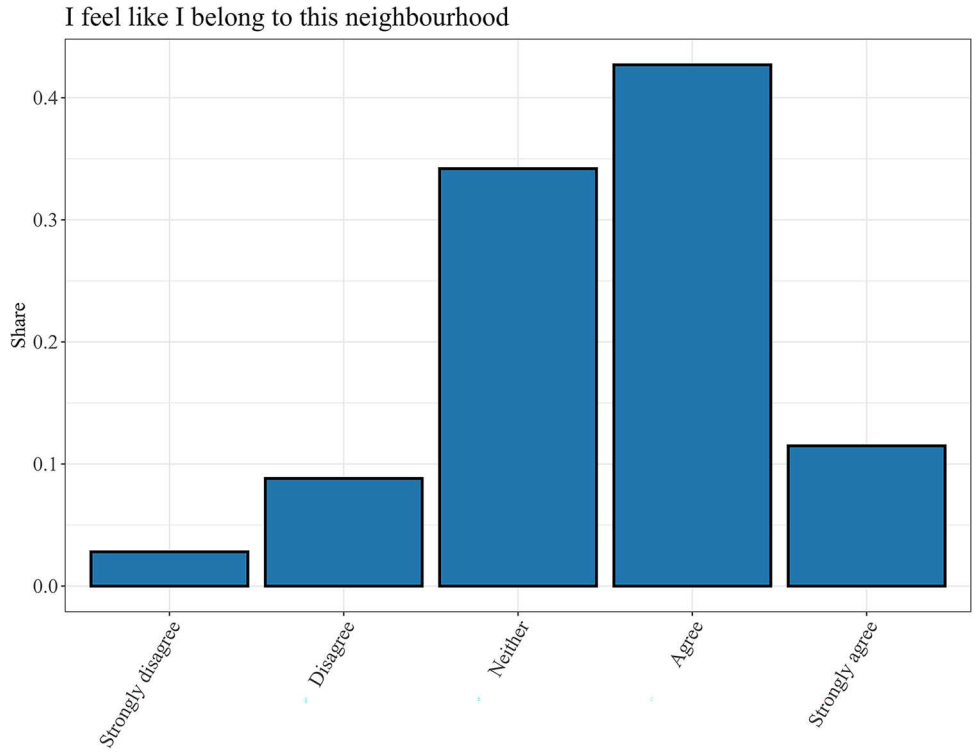

Figure 1 Distribution of subjective belonging to the neighbourhood in the full analytical sample
Source: Authors' analysis of UKHLS 2009–23, unweighted.

residence and occurrence of the first birth (Table S2, supplementary material), we observe that the relationship appears to turn negative at about four years. As a result, we create a binary variable *Recent move*, categorizing individuals according to time at current residence: recent movers ('less than four years') and long-term residents ('four or more years').

Distance should also play a role, with shorter-distance residential moves incurring a smaller penalty in the sense of belonging to the neighbourhood than longer-distance moves. However, the penalty for longer moves should also decrease over time. To consider the roles of both distance and time at current residence, we categorize observations into three groups for *Distance moved*: 'Recent, 4 km or more'; 'Recent, less than 4 km'; and 'Long-term resident'. We select 4 km as the threshold since it is the median distance moved in the analytical sample. However, the relationship holds when using longer distances (Table S2; in this case, the threshold tested is 10 km). The calculation relies on the latitude and longitude of the central point of the respondent's home postcode, using Vincenty's formulae to determine the geodesic distance. In Understanding Society, distance moved is calculated starting in Wave 3 and only for households that have changed address since the previous survey wave. We omit Wave 1 as no moving distance was collected (3,872 observations). Moving distance is calculated only if the respondents report a valid postcode in consecutive waves. The reason given for not calculating moving distances for respondents who do not participate in intermediate waves is that the data managers cannot know definitively that no intermediate residential moves occurred. This unfortunately means that if a household misses a survey wave and returns in a non-consecutive wave, their moving distance is not calculated. This reduces our number of valid observations due to missing distance of last move (n = 4,486), leaving us with a subsample of 10,453 valid observations. Table 1 presents the summary statistics for the subsample.

Because of the data limitations, long-term residents are over-represented in the subsample. However, we are interested primarily in the difference between the two recent mover subgroups. We conducted several sensitivity analyses to assess potential bias introduced if the distance moved were correlated to missing values (i.e. not missing at random). First, we investigated whether the median moving distance differed among the recent mover subgroups and found no significant variation. Next, we reclassified the excluded observations as 'Recent, unknown distance' and reran our logit model, now encompassing four categories.

Notably, the coefficients associated with 'Recent, unknown distance' fell within the range of coefficients linked to known moving distances. These tests collectively indicate the absence of a systematic relationship between dropped observations and the actual distance moved. Hence, among recent movers, we conclude that the data are missing at random.

Controls

All models control for sex, age, survey wave, activity status, education, housing tenure, distance to the closest parent, and urbanicity. *Activity status* distinguishes between 'employed', 'unemployed', 'inactive', or 'full-time student'. We use the International Standard Classification of Education (ISCED-97) to categorize *Educational attainment* as 'low' (ISCED-97 1–2), 'medium' (ISCED-97 3–4), or 'high' (ISCED-97 5–6). *Housing tenure* is categorized as 'owned', 'private rent', or 'social rent'. The distance to the closest parent (*Parental distance*) serves as a proxy for geographical proximity to kin. It is measured as reported travel time, categorized as '30 minutes or less', 'More than 30 minutes', or 'unknown/deceased'.

Within our sample, the unadjusted mean sense of belonging to the neighbourhood is 3.51, putting the score halfway between individuals stating they 'neither agree/disagree' and those who 'agree' (Table 1). However, the mean sense of belonging varies according to the outcome (whether or not the respondent has their first child) and within our dependent and control variables. Respondents report a higher mean sense of belonging when a first birth has occurred since the previous wave. Individuals who are older, employed, homeowners, or residing in rural areas also report a significantly higher mean sense of belonging. Meanwhile the lowest mean sense of belonging is seen among renters (both private and social), students, and younger individuals (Pearson's chi-square test $p < 0.05$).

Analytical strategy

We estimate the likelihood of a first birth event in the interval between the wave in which the individuals' characteristics are gathered and the subsequent wave. We do this through logit regression models with clustered standard errors at both the individual and household levels to account for the pooled nature of the data; these are calculated using the delta method. The data are organized in person-period format, with each observation representing a wave when the respondent was asked about belonging to the neighbourhood.

We estimate the following models:.

$$\begin{aligned} \textit{First birth event}_i &= \boldsymbol{\theta}\textit{Belong to the neighbourhood}_i \\ &\quad + \boldsymbol{\beta}\textit{Recent move}_i \\ &\quad + \gamma \boldsymbol{X}_i \end{aligned} \tag{1(a)}$$

$$\begin{aligned} \textit{First birth event}_i &= \boldsymbol{\theta}\textit{Belong to the neighbourhood}_i \\ &\quad \times \boldsymbol{\beta}\textit{Recent move}_i \\ &\quad + \gamma \boldsymbol{X}_i \end{aligned} \tag{1(b)}$$

$$\begin{aligned} \textit{First birth event}_i &= \boldsymbol{\theta}\textit{Belong to the neighbourhood}_i \\ &\quad + \boldsymbol{\delta}\textit{Distance moved}_i \\ &\quad + \gamma \boldsymbol{X}_i \end{aligned} \tag{2(a)}$$

$$\begin{aligned} \textit{First birth event}_i &= \boldsymbol{\theta}\textit{Belong to the neighbourhood}_i \\ &\quad \times \boldsymbol{\delta}\textit{Distance moved}_i \\ &\quad + \gamma \boldsymbol{X}_i \end{aligned} \tag{2(b)}$$

Models 1(a) and 1(b) include the full sample, while Models 2(a) and 2(b) are restricted to observations with valid data on distance of recent move. In the equations, X represents the vector of time-varying and time-constant controls. The (a) models include the main effect without interaction terms, while the (b) models include an interaction term between the explanatory variables. The (a) models are presented as average marginal effects (AMEs). Since it is not possible to calculate the AME of interaction terms (Williams 2012), Appendix Table A1 presents the regression results of the (a) and (b) models as logit regression coefficients with clustered standard errors.

Following the best practices suggested by Mize (2019), the interaction terms are presented graphically as predicted probabilities in the main body of the paper for ease of interpretation. These predicted probabilities are calculated by centring all non-focal independent variables at their mean values using the *interactions* package in R (Long 2019). For Appendix Table A2 we calculate the statistical significance of the interaction terms using the first and second differences of the predicted probabilities of the interacted variables. First differences represent the change in predicted probabilities of first birth across different levels of the *Recent move* and *Distance moved* variables for the endpoints of the range of *Belong to the neighbourhood* (e.g. the

predicted probability of recent movers when belonging is '5' [strongly agree] minus the probability when it is '1' [strongly disagree]). Second differences are estimated by examining the variation across these different levels, and we assess statistical significance using a Wald test.

Results

In Table 2, Model 1(a), *Belong to the neighbourhood* is positively associated with having a first birth in the period following the interview (AME = 0.013, $p < 0.001$; Model 1(a)). This result holds even after controlling for varying numbers of socio-economic and demographic characteristics, thus supporting our first hypothesis (H1). The coefficient for *Recent move* indicates that there is a strong positive association between residential relocation in the previous four years and the transition to parenthood (AME = 0.035, $p < 0.001$; Model 1(a)). This result reflects the literature that residential moves, especially of younger partnered individuals, are often made in anticipation of parenthood (H2).

Table 2 Estimated coefficients (AMEs) of logit regression (outcome = first birth) with clustered standard errors at the individual and household levels

	Model 1(a)		Model 2(a)	
First birth event	AME	SE	AME	SE
Belong to the neighbourhood	0.013***	(0.003)	0.012**	(0.004)
Recent move (Ref. Four years or more)				
Less than four years	0.035***	(0.005)	–	–
Distance moved (Ref. Long-term resident)				
Recent, less than 4 km	–	–	0.052***	(0.010)
Recent, 4 km or more	–	–	0.029***	(0.009)
Sex (Ref. Men)				
Women	−0.005	(0.005)	−0.008	(0.007)
Age (Ref. 18–24)				
25–29	0.006	(0.010)	−0.001	(0.016)
30–34	0.053*	(0.011)	0.064***	(0.017)
35–39	−0.021	(0.011)	−0.033*	(0.016)
40–45	−0.083***	(0.009)	−0.089***	(0.014)
Survey wave (Ref. Wave 1)				
Wave 3	0.004	(0.007)	*Ref.*	*Ref.*
Wave 6	−0.006	(0.007)	−0.008	(0.008)
Wave 9	0.026**	(0.009)	0.012	(0.010)
Wave 12	−0.006	(0.008)	−0.015	(0.010)
Parental distance (Ref. 30 minutes or less)				
More than 30 minutes	−0.011*	(0.006)	−0.004	(0.007)
Unknown/deceased	−0.026**	(0.009)	−0.012	(0.011)
Activity status (Ref. Employed)				
Unemployed	−0.004	(0.012)	−0.024	(0.015)
Inactive	0.009	(0.017)	0.013	(0.020)
Student	−0.052***	(0.010)	−0.048***	(0.014)
Educational attainment (Ref. High)				
Medium	−0.015*	(0.007)	−0.013	(0.009)
Low	−0.001	(0.006)	−0.013	(0.009)
Housing tenure (Ref. Owned)				
Private rent	−0.044***	(0.005)	−0.039***	(0.007)
Social rent	−0.008	(0.010)	0.003	(0.013)
Urbanicity (Ref. Rural)				
Urban	−0.018**	(0.007)	−0.035***	(0.009)
N observations	18,811		10,453	
AIC	7136.8		3560.0	
Pseudo-R^2 (Cragg–Uhler)	0.104		0.119	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Notes: Model 1(a) includes the full sample. Model 2(a) is based on a restricted sample with valid observations of moving distance. Tables shows average marginal effects (AMEs) and clustered standard errors (SEs; in parentheses). *Ref.* is the reference category. The outcome variable is the occurrence of a first birth event between the survey question and the subsequent wave.

Source: Authors' analysis of UKHLS 2009–23, weighted.

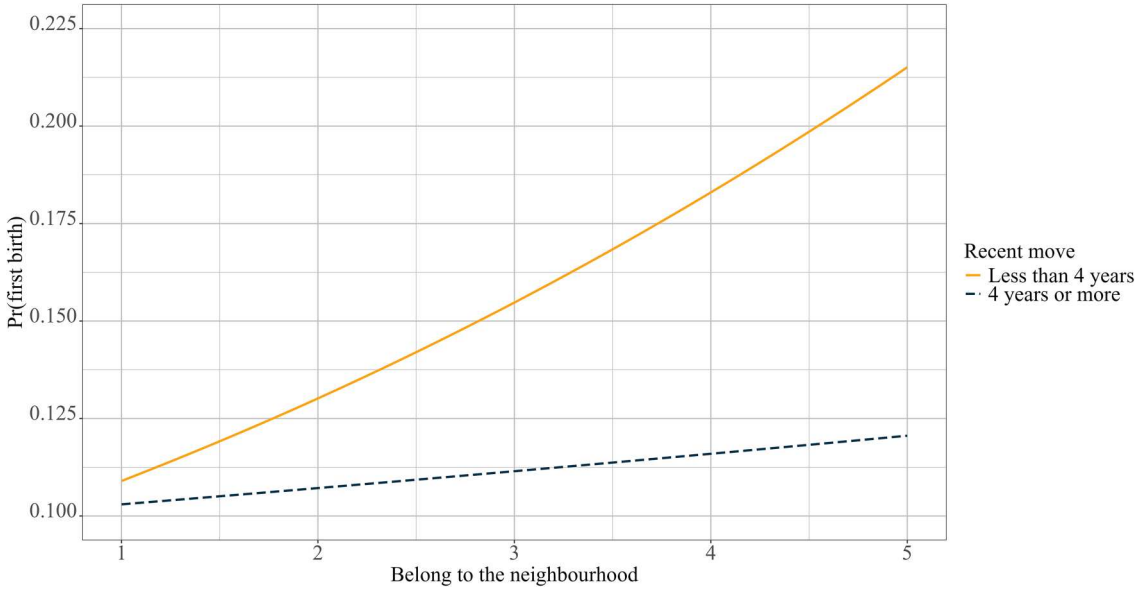

Figure 2 Predicted probabilities of the birth of a first child: Interaction term between *Belong to the neighbourhood* and *Recent move*

Notes: Figure 2 corresponds to Model 1(b) in Table A1. The outcome variable is the occurrence of a first birth event between the survey question and the subsequent wave. The model controls for sex, age, survey wave, activity status, educational attainment, housing tenure, parental distance, and urbanicity.

Source: Authors' analysis of UKHLS 2009–23, weighted.

Given our expected dependency of the transition to parenthood on both the sense of belonging to the neighbourhood and the duration of residence, we introduce an interaction term for these two variables. In Table A1, Model 1(b), we confirm that the interaction term between *Belong to the neighbourhood* and *Recent move* is positive and statistically significant, suggesting that a stronger sense of belonging is associated with a higher likelihood of transitioning to parenthood, particularly for recent movers. This is supported by the statistical significance of the second difference in Table A2. Figure 2 illustrates this by showing that for recent movers, each discrete step towards a stronger sense of belonging to the neighbourhood increases the predicted probability of transition to parenthood. For example, for a respondent who agrees with the statement *I feel like I belong to this neighbourhood*, the predicted annual probability of becoming a parent is roughly 2.5 per cent higher than for a respondent who says they neither agree nor disagree. This result indicates that even small positive changes in the sense of belonging among recent movers greatly increase the probability that they will become parents. This supports our hypothesis that sense of belonging is particularly important for recent movers (H4). The change for long-term residents is modest: about 0.015 from the lowest to highest levels of belonging.

Model 2(a) (Table 2) shows that recent moves of less than 4 km are more positively associated with parenthood (AME = 0.052, $p < 0.001$) than recent moves of 4 km or more (AME = 0.029, $p = 0.001$), corroborating H3. In Table A1, Model 2(b), we use an interaction term between *Belong to the neighbourhood* and *Distance moved* to assess the extent to which the sense of belonging moderates residential moves when considering the distance moved. The coefficients of the interaction term are positive for both short- and long-distance recent movers, indicating that a higher sense of belonging increases the likelihood of becoming a parent for both types of moves. When compared with long-term residents, the coefficients of the interaction term are statistically significant (Table A2).

Figure 3 illustrates the predicted probabilities of the interaction term between *Belong to the neighbourhood* and *Distance moved*. Notably, at the lowest end of the belonging scale, short-distance movers exhibit the highest predicted probability of having their first birth (approximately 18.0 per cent), followed by long-term residents (around 15.5 per cent), and long-distance movers (around 9.0 per cent). However, as the sense of belonging to the neighbourhood increases, the predicted probabilities for both short- and long-distance recent movers also increase. For individuals reporting that they strongly agree with the statement that they

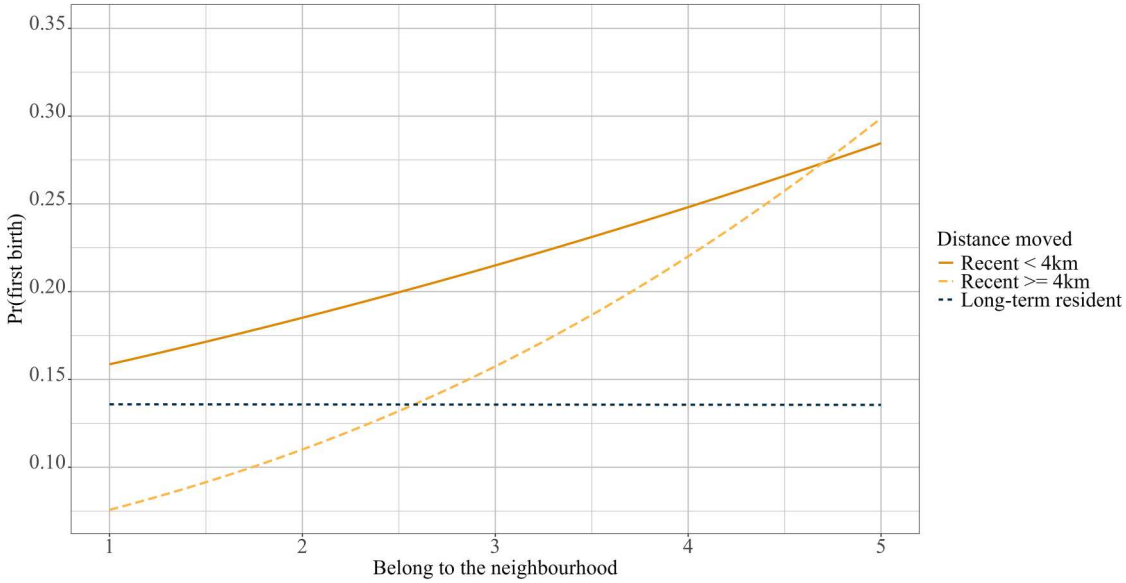

Figure 3 Predicted probabilities of the birth of a first child: Interaction term between *Belong to the neighbourhood* and *Distance moved*

Notes: Figure 3 corresponds to Model 2(b) in Table A1. The outcome variable is the occurrence of a first birth event between the survey question and the subsequent wave. The model controls for sex, age, survey wave, activity status, educational attainment, housing tenure, parental distance, and urbanicity.

Source: As for Figure 2.

belong to the neighbourhood, the predicted probabilities of having a first child converge (at around 32.5 per cent) for recent movers over the two distances. This indicates that the sense of belonging to the neighbourhood mitigates much of the penalty associated with longer-distance moves. Combined, these findings lend support to H5: that the sense of belonging to the neighbourhood reduces the penalty for longer-distance moves. Conversely, there is no evident increase in the predicted probability of having a first birth among long-term residents within the restricted sample, with the predicted probability remaining constant along the belonging scale (first difference = 0.003; Table A2).

While *Parental distance* is not our main variable of interest, we observe an interesting relationship between distance to the closest parent and the transition to parenthood. Table 2 indicates that living more than 30 minutes from the closest parent is negatively related to the transition to parenthood (AME = −0.011, $p = 0.041$). Appendix Table A3 presents the results of an interaction term between *Belong to the neighbourhood* and *Parental distance*, and Appendix Figure A1 illustrates this relationship. We find that as for distance moved, the predicted probabilities of having a first child converge at the highest sense of belonging among individuals with a known distance to the closest parent. This suggests that a strong sense of belonging may also help individuals to overcome greater geographical distances from their parents when having their first child.

Finally, we examine how including control variables such as housing tenure, education, urbanicity, and parental distance influences the relationships between belonging to the neighbourhood, recent moves, distance moved, and first birth. Through stepwise modelling, we find that adding these controls reduces the size of the coefficient of the sense of belonging but does not affect the statistical significance of the relationship. This indicates that in models without the controls, belonging captures aspects associated with the controls. Meanwhile, including these control variables generally increases the size of the coefficients for *Recent move* and *Distance moved*. For example, Table S3 (supplementary material) includes models with and without housing tenure included. We observe that the coefficient of belonging captures some of the variation associated with housing tenure. Even after adding these control variables, the main finding still holds: a stronger sense of belonging to the neighbourhood is linked with a higher likelihood of becoming a parent. However, it is important to note that interpretations of marginal effects and predicted probabilities are sensitive to which controls are included in the model and should be interpreted accordingly.

Discussion

In this paper, we examine the role that people's subjective connection to their neighbourhood plays in the transition to parenthood. We observe that individuals with a stronger sense of belonging are more likely to become parents. Recent work has indicated that young people may delay having a first child until they are emotionally and financially stable and at the perceived right life stage to be able to handle parenthood (Datta et al. 2023; Artamonova et al. 2024; Hayford et al. 2024). The right life stage likely also includes being at home in a geographical place. Therefore, our findings support the theory that the act of settling down is an important precursor to parenthood (Astone et al. 1999). This relationship may, however, also work in the other direction. As individuals approach the transition to parenthood, their emotional investment in the neighbourhood may increase. The long-term planning necessary for having a child might lead prospective parents to engage more with the community, thereby increasing their sense of belonging.

Like in other studies from the UK (Ermisch and Steele 2016), we find that recent moves, especially over short distances, are positively related to the transition to parenthood. Previous research has focused on prospective parents trying to improve the objective characteristics of their dwelling (e.g. ownership, space, size, garden access) or neighbourhood (e.g. school quality, security, housing density) (Kulu and Vikat 2007). However, it is also possible that individuals enhance their local social connections by relocating to communities with more young parents and families. Our study finds that among individuals who have changed residential addresses within the last four years, having a stronger sense of belonging to the neighbourhood is positively related to parenthood. When factoring in the sense of belonging, the gap between short- and long-distance movers in the likelihood of having a first child disappears. Thus, a strong reported sense of belonging among recent movers could be the result of individuals self-selecting into family-friendly neighbourhoods that they want to settle down in. Understanding Society asks about sense of belonging in every third interview, limiting the ability to track whether individuals move from an area where they have a lower sense of belonging to one where they have a higher sense of belonging, as three years is a large window. Longitudinal studies observing changes in belonging within individuals over time may help to parse the relationship between belonging, residential mobility, and parenthood, and this is an avenue for future research.

We find almost no relationship between sense of belonging and parenthood for long-term residents. This could be for two reasons. First, as people live in a neighbourhood for longer, their sense of belonging grows, likely making it less influential in their decision to start a family. Second, among childless people living with a partner, long-term residents are compositionally different from recent movers. Long-term residents are more likely to be older, to live closer to their parents, and to be homeowners, all factors associated with a high sense of belonging. Thus, belonging, when accounting for these factors, likely plays only a small role in the transition to parenthood for long-term residents.

Finally, we find that a higher sense of belonging decreases the negative relationship between living further from parents and first birth. This generally supports the idea that some social embeddedness might substitute for kin proximity. Local social resources may facilitate parenthood through the knowledge of their availability more than through direct instrumental support. This is also intertwined with the emotional well-being aspect of the sense of belonging. People living further from kin may be less worried about issues arising after their child is born if they have someone to ask for assistance or advice or to turn to in the case of emergency.

While using sense of belonging offers a novel way of exploring subjective connection to the neighbourhood, this study has limitations. Understanding Society does not enquire about the desire to settle down, the emotional well-being derived from a geographical place, or the type of support from local social contacts specific to parenthood, such as help in emergencies. Thus, we are left to speculate about which aspects associated with belonging encourage family formation. It is possible that sense of belonging is a proxy for individuals' satisfaction with their dwelling or neighbourhood. A question about house/apartment satisfaction was asked simultaneously with sense of belonging in Wave 12. However, using Pearson's two-way correlation analysis, we found only a weak correlation between the variables ($r = 0.189$, $p < 0.001$) within our sample, suggesting that belonging captures much more than simply housing satisfaction. Homeownership appears to account for part of the relationship between belonging and parenthood but not all (Table S3). Therefore, we conclude that sense of belonging is not capturing only housing and neighbourhood satisfaction.

We do not know how far respondents are from where they grew up, and some residential moves may be returns to the home town of one or both partners. The variable for distance to the closest parent may partially control for this, but parents might have moved as well. Furthermore, it is not conceptually clear what it means to have grown up somewhere, as residential mobility can be a part of childhood. The significance of 'home town' might also vary depending on the nature of the area (e.g. urban vs rural settings). Close friends may play a supplementary role, but we found that once we included sense of belonging to the neighbourhood, there was no relationship between the geographical proximity of friends and first birth (analysis not shown). Finally, one of the biggest barriers to family formation is non-formation of a co-residential partnership. To reduce the number of pre-parental moves, we consider only individuals who are co-residing with a partner. However, when we included single individuals (not shown), we found similar, although statistically insignificant, results.

Despite these limitations, our study contributes to the literature by considering how geographical place, as one of the key pillars of the life-course perspective, influences the transition to parenthood. It appears that individuals' subjective connection to their physical surroundings plays an important role in the transition to parenthood.

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Appendix

Table A1 Estimated coefficients of logit regression (outcome = first birth) with clustered standard errors at the individual and household levels

First birth event	Model 1(a)	Model 1(b)	Model 2(a)	Model 2(b)
Belong to the neighbourhood	0.154***	0.044	0.154**	−0.001
	(0.036)	(0.064)	(0.052)	(0.073)
Recent move (Ref. Four or more years)				
Less than four years	0.470***	−0.094	–	–
	(0.074)	(0.283)		
Distance of recent move (Ref. Long-term resident)				
Recent, less than 4 km	–	–	0.667***	−0.006
			(0.120)	(0.459)
Recent, 4 km or more	–	–	0.417***	−1.064*
			(0.120)	(0.472)
Belong × Less than four years	–	0.157*	–	–
		(0.077)		
Belong × Recent, less than 4 km	–	–	–	0.187
				(0.126)
Belong × Recent, 4 km or more	–	–	–	0.413**
				(0.126)
Sex (Ref. Men)				
Women	−0.062	−0.062	−0.114	−0.108
	(0.065)	(0.065)	(0.093)	(0.093)
Age (Ref. 18–24)				
25–29	0.065	0.063	−0.015	−0.022
	(0.111)	(0.111)	(0.170)	(0.171)
30–34	0.486***	0.481***	0.561***	0.543**
	(0.110)	(0.110)	(0.165)	(0.165)
35–39	−0.248*	−0.249*	−0.411*	−0.413*
	(0.126)	(0.126)	(0.190)	(0.190)
40–45	−1.696***	−1.691***	−1.895***	−1.889***
	(0.164)	(0.164)	(0.231)	(0.231)
Survey wave (Ref. Wave 1)				
Wave 3	0.057	0.057	*Ref.*	*Ref.*
	(0.083)	(0.083)		

(*Continued*)

Table A1 Continued.

First birth event	Model 1(a)	Model 1(b)	Model 2(a)	Model 2(b)
Wave 6	−0.081	−0.079	−0.119	−0.116
	(0.099)	(0.099)	(0.114)	(0.114)
Wave 9	0.301**	0.295**	0.156	0.142
	(0.104)	(0.104)	(0.127)	(0.128)
Wave 12	−0.080	−0.080	−0.227	−0.231
	(0.114)	(0.114)	(0.155)	(0.155)
Parental distance (Ref. 30 minutes or less)				
More than 30 minutes	−0.132*	−0.132*	−0.057	−0.058
	(0.069)	(0.069)	(0.099)	(0.099)
Unknown/deceased	−0.344**	−0.345**	−0.171	−0.180
	(0.124)	(0.124)	(0.169)	(0.169)
Activity status (Ref. Employed)				
Unemployed	−0.047	−0.050	−0.395	−0.405
	(0.155)	(0.155)	(0.288)	(0.289)
Inactive	0.114	0.114	0.103	0.103
	(0.127)	(0.127)	(0.183)	(0.183)
Student	−1.006***	−1.004***	−1.012*	−1.003*
	(0.305)	(0.305)	(0.440)	(0.440)
Educational attainment (Ref. Low)				
Medium	−0.200*	−0.199*	−0.191	−0.187
	(0.092)	(0.092)	(0.127)	(0.127)
Low	−0.013	−0.016	−0.154	−0.158
	(0.080)	(0.080)	(0.121)	(0.121)
Housing tenure (Ref. Owned)				
Private rent	−0.613***	−0.611***	−0.614***	−0.602***
	(0.081)	(0.081)	(0.118)	(0.118)
Social rent	−0.091	−0.092	0.034	0.025
	(0.113)	(0.113)	(0.156)	(0.156)
Urbanicity (Ref. Rural)				
Urban	−0.217**	−0.217**	−0.442***	−0.439***
	(0.079)	(0.079)	(0.108)	(0.108)
Intercept	−2.591***	−2.193***	−2.256***	−1.692***
	(0.208)	(0.281)	(0.294)	(0.344)
N observations	18,811	18,811	10,453	10,453
AIC	7,136.8	7,134.5	3,560.0	3,554.1
Pseudo-R^2 (Cragg–Uhler)	0.111	0.110	0.142	0.144

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.
Notes: Model 1 includes the full sample. Model 2 is based on a restricted sample with valid observations of moving distance. Interaction terms are included in the (b) models. Clustered standard errors are in parentheses. *Ref.* is the reference category. The outcome variable is the occurrence of a first birth event between the survey question and the subsequent wave.
Source: Authors' analysis of UKHLS 2009–23, weighted.

Table A2 First and second differences with Wald test results of interaction terms of *Belong to the neighbourhood* with *Recent move* and *Distance moved*

	First difference	Second difference	Wald test
Recent move			
Less than four years	0.012	*Ref.*	–
Four years or more	0.108	0.096	41.43***
Distance moved			
Long-term resident	0.003	*Ref.*	–
Recent, less than 4 km	0.139	0.136	78.41***
Recent, 4 km or more	0.247	0.243	102.84***

***$p < 0.001$.
Notes: First differences indicate the difference in the predicted probability of having a first birth between individuals who reported the highest (5) and lowest (1) scores for sense of belonging to the neighbourhood. Second differences represent the variation in this difference across different levels compared with the reference level. *Ref.* is the reference category.
Source: As for Table A1.

Table A3 Estimated coefficients of logit regression (outcome = first birth) with and without interactions between *Belong to the neighbourhood* and *Parental distance*

	Model 1(a): Without interaction		Model 1(b): With interaction	
First birth event	Estimate	SE	Estimate	SE
Belong to the neighbourhood	0.154***	(0.036)	0.097	(0.052)
Recent move (Ref. Four years or more)				
Less than four years	0.470***	(0.074)	0.470***	(0.074)
Parental distance (Ref. 30 minutes or less)				
More than 30 minutes	−0.132*	(0.069)	−0.476	(0.272)
Unknown/deceased	−0.344**	(0.124)	−0.958	(0.507)
Belong × More than 30 minutes			0.097	(0.074)
Belong × Unknown/deceased			0.170	(0.135)
Sex (Ref. Men)				
Women	−0.062	(0.065)	−0.061	(0.065)
Age (Ref. 18–24)				
25–29	0.065	(0.111)	0.067	(0.111)
30–34	0.486***	(0.110)	0.487***	(0.110)
35–39	−0.248*	(0.126)	−0.245	(0.126)
40–45	−1.696***	(0.164)	−1.694***	(0.164)
Survey wave (Ref. Wave 1)				
Wave 3	0.057	(0.083)	0.058	(0.083)
Wave 6	−0.081	(0.099)	−0.078	(0.099)
Wave 9	0.301**	(0.104)	0.302**	(0.104)
Wave 12	−0.080	(0.114)	−0.080	(0.114)
Activity status (Ref. Employed)				
Unemployed	0.047	(0.155)	0.049	(0.155)
Inactive	0.114	(0.127)	0.116	(0.127)
Student	−1.006***	(0.305)	−1.013***	(0.305)
Educational attainment (Ref. High)				
Medium	−0.200*	(0.092)	−0.201*	(0.092)
Low	−0.013	(0.080)	−0.015	(0.080)
Housing tenure (Ref. Owned)				
Private rent	−0.613***	(0.081)	−0.610***	(0.081)
Social rent	−0.091	(0.113)	−0.092	(0.113)
Urbanicity (Ref. Rural)				
Urban	−0.217**	(0.079)	−0.218**	(0.079)
Intercept	−2.591***	(0.208)	−2.387***	(0.246)
N observations	18,811		18,811	
AIC	7,136.8		7,138.9	
Pseudo-R^2 (Cragg–Uhler)	0.104		0.104	

*$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Notes: Model 1(a) is the base model with no interaction term. Model 1(b) includes an interaction term of *Belong to the neighbourhood* and *Parental distance*. Clustered standard errors (SE; at the individual and household levels) are in parentheses. The outcome variable is the occurrence of a first birth event between the survey question and the subsequent wave. The positive coefficients in the interaction term suggest that the likelihood of becoming a parent increases as the sense of belonging increases. *Ref.* is the reference category.

Source: As for Table A1.

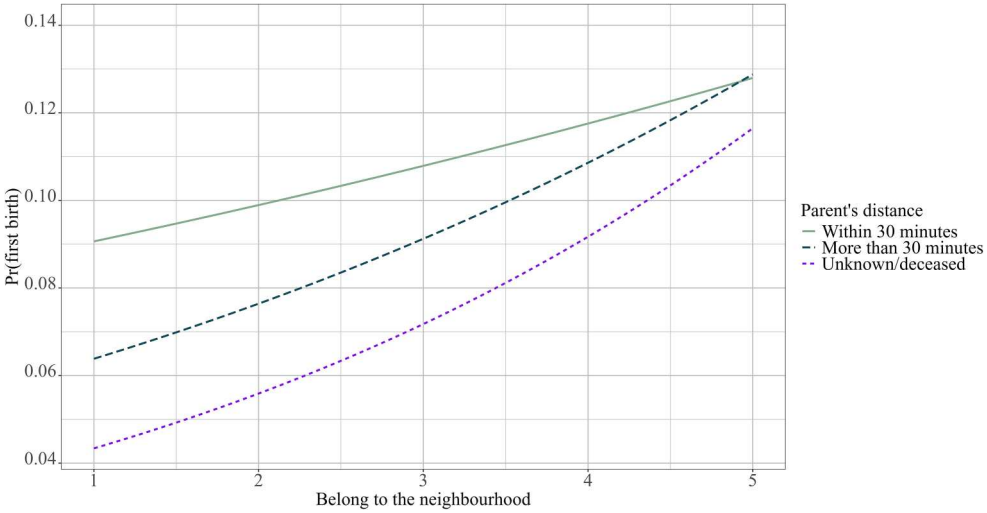

Figure A1 Predicted probabilities of the birth of a first child: Interaction term between *Belong to the neighbourhood* and *Parental distance*

Notes: Figure A1 corresponds to Model 1(b) in Table A3. The model controls for sex, age, survey wave, activity status, educational attainment, housing tenure, and urbanicity. The results indicate that at a higher sense of belonging to the neighbourhood, the probability of having a first child is similar for individuals living 30 minutes or less and those living more than 30 minutes from the closest parent.

Source: Authors' analysis of UKHLS 2009–23, weighted.