

Family Geography and Family Demography in the UK: Cross-Sectional Perspective*

Tak Wing Chan
Department of Sociology
University of Warwick

John Ermisch
Department of Sociology
University of Oxford

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Abstract

Using data from a large household survey that is representative of the UK population, we study how close parents and adult children live to each other. We show that residential mobility over the life course tends to increase the physical distance between the generations. There are large differences in intergenerational proximity between the foreign born and UK born, and among ethnic groups. The determinants of intergenerational proximity from the parent's viewpoint are not identical to those from the child's viewpoint. Contrary to some earlier studies, intergenerational proximity, from the child's viewpoint, does not vary with the number of siblings. But from the parent's viewpoint, having more children is unambiguously associated with a higher probability of living close to at least one child. We end with a brief discussion of some possible implications of several long-term demographic trends in the UK for intergenerational proximity.

1 Introduction

If adult children are to offer in-kind help to parents regularly, or vice versa, the two generations need to live near each other (Rainer and Siedler, 2012).

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Furthermore, frequent contact may be valued by one or both generations, and contact is also facilitated by geographical proximity (Hank, 2007). Because the physical distance between family members (‘family geography’ in short) is an important part of the ‘opportunity structure for interaction’ (Bengtson and Roberts, 1991), it is key to understanding intergenerational relationships.

In this paper, we examine family geography in contemporary British society using cross-sectional data from a large and nationally representative household survey. We pay particular attention to the stable demographic attributes of individuals (i.e. those which usually do not change after one’s early 30s). This focus highlights the possible contributions to family geography of several long-term demographic trends in British society, including falling fertility, increases in divorce, rising educational attainment, and greater ethnic diversity. In a separate paper, we will use panel data to explore the degree to which family geography is sensitive to short-term changes in, for example, the marital status, economic circumstances or health conditions of individuals.

Many factors go into residential location decisions. Some of these relate to the quality of the dwelling and the environment (e.g. adequacy of space and local amenities). Others have to do with the attributes of individuals and households (e.g. occupation and income). But there are relatively few studies relating residential decisions to the ‘wider family context (parents, children and siblings living outside the household)’ (Mulder, 2007, p. 265).

The disconnection between family geography and family demography is partly due to the focus on the household in past research. That focus captures the decline in intergenerational coresidence in Britain (Grundy, 2000). But as it ‘excludes consideration of kin “beyond the household”’ (Shelton and Grundy, 2000, p.181), our understanding of intergenerational proximity, for the UK at least, is limited.¹

There are good reasons to think that the ‘wider family context’ matters. For example, parents of young children might live near their own parents so that the latter could help with childcare. Older parents with disabilities might live near a grown-up child so that the child could help with daily chores.

1.1 Childcare and social care in the UK

Lewis (2013) points out that the UK is a laggard in Europe in public childcare provision. Despite the introduction of free part-time early years education for

¹There is a large literature on family geography for some other countries, especially the Netherlands (see e.g. Mulder, 2007; Mulder and Cooke, 2009; Mulder and van der Meer, 2009; Michielin *et al.*, 2008; Blaauboer *et al.*, 2011; van der Pers and Mulder, 2012).

three and four year olds in 2004, ‘securing good quality provision is difficult, [and] accessibility and availability is limited in many parts, particularly in poor neighborhoods and rural areas’ (Lewis, 2013, pp.359–360). At the same time, private childcare in the UK is among the most expensive in Europe. The Family and Childcare Trust reports that the average cost of putting a child under two in a private nursery for 25 hours per week is £109.89, which is higher than the ‘average food costs in the UK (£56.80) and average costs on transport (£64.10 per week)’ (Rutter and Stocker, 2014, p.12).

At the other end of the life course, social care for older people in England, Wales and Northern Ireland is a means-tested service.² The Commission on Funding of Care and Support (2011, pp.11–12, CFCS in short) notes that under the current system ‘people with assets over £23,250 receive no financial state support and need to fund their own care ... Around one in 10 people, at age 65, face future lifetime care costs of more than £100,000 ... in paying for care, some people can lose the majority of their income and assets.’³ Moreover, because social care, including domiciliary care (i.e. care of older people living independently in their own home) is delivered by local authorities, there are large variations across the country in fees and eligibility rules. Overall, social care is widely seen as ‘confusing, unfair and unsustainable’ (CFCS, 2011, p.5).

The upshot is that, regarding both childcare and social care in the UK, public provision is inadequate and the market alternative is, for many people, prohibitively expensive. Given this, informal care offered by members of the extended family is potentially of great importance (Wheelock and Jones, 2002; Gray, 2005; McNeil and Hunter, 2014). Indeed, Grundy *et al.* (1999, p.20) report that ‘a quarter of families with a child under five use relatives and friends to provide some childcare and 60 per cent of elderly people living alone who need help with domestic tasks rely on relatives to provide this.’

Practical support aside, many people might simply want to maintain close ties with their extended family. Thus, as Mulder (2007, p.267) points out, having one’s family living nearby is, for many, a ‘location-specific capital’, making a place more attractive than others.

²Personal and nursing care for people aged 65 or over is free in Scotland since 2002.

³According to PayingForCare, the average weekly cost in 2013/14 of staying in a residential care home with nursing support ranges between £591 (North East of England) and £874 (South East). See www.payingforcare.org/care-home-fees (accessed 25 July 2014).

1.2 Past research and hypotheses

What predicts intergenerational proximity? A necessary, but not sufficient, condition for having a parent (child) living nearby is to have a surviving parent (child). Thus, the core demographic processes of fertility and mortality set the basic parameters of family geography. Of course, age-specific rates of fertility and mortality are themselves behavioural outcomes which need to be explained. But as proximate determinants of family geography, they operate in a rather mechanistic fashion, in the sense that no behavioural assumption is involved. For example, Murphy and Grundy (2003, p.37) note that ‘[for] a child born in a particular year t , to a mother aged b , the probability of that person’s mother being alive when the person is aged a is given by the probability that his or her mother will survive between ages b and $a + b$ with the mortality of the female cohort born in year $t - b$.’ So with actual or projected mortality rates of women, Murphy and Grundy (2003) compute the probability that children from different birth cohorts having a surviving mother at different ages of the children. Using a similar logic, they compute the probability of mothers from different birth cohorts having a child alive at different ages of the mothers. As sheer number affects the availability of kin (Lin and Rogerson, 1995), our first hypothesis is as follows.

Hypothesis 1: Parents who have more children are more likely to have a child living close by.

Another mechanistic demographic process which affects intergenerational proximity is geographical mobility. Generally speaking, geographic mobility moves the two generations farther apart (Rogerson *et al.*, 1993). Furthermore, because the effect of successive residential moves might accumulate over the life course, our expectation is as follows.

Hypothesis 2: The physical distance between parents and children increases with age within each generation.

Mechanistic demographic processes are certainly important. But to understand intergenerational proximity fully, we also need to take into account the values and behavioural norms of different social groups, as well as the interests and motivations of individuals, even their strategic behaviour. An example of the latter concerns the impact of siblings or even birth order. Konrad *et al.* (2002) argue that firstborn siblings have a first-mover advantage. They ‘may choose to locate at some critical distance from their parents, essentially forcing younger siblings to live closer to parents and provide all

or most of the required care' (Rainer and Siedler, 2009, p.338). While Konrad *et al.* (2002) find evidence from Germany that supports their argument, Rainer and Siedler (2009, 2012) report no significant difference between first-born and second-born siblings in their location choice or time transfer to parents. Moreover, they show that in ten European countries adult children with siblings are significantly more likely to live farther away from their parents than only children (see also Shelton and Grundy, 2000). One interpretation of this result is that only children are forced to live close to their parents because, by definition, they do not have siblings with whom they could share the responsibility of care for parents.

Hypothesis 3: Compared to children with siblings, only children live closer to their parents.

Previous research often examines intergenerational proximity from the vantage point of just one generation, either the parent's (e.g. Glaser and Tomassini, 2000; Hank, 2007; Rainer and Siedler, 2012) or the adult child's (e.g. Rogerson *et al.*, 1993; Shelton and Grundy, 2000). But the views from these two vantage points need not be the same (Murphy and Grundy, 2003), not least because the number of children that are available to a parent often differs from the number of parents that are available to a child. (Note the opposite predictions of Hypotheses 1 and 3.) Given the large sample size of our data (see below), we will be able to explore intergenerational proximity from both vantage points, using separate samples of parents and children.⁴

The divorce rate in the UK has risen sharply since the late 1960s. When parents stop living together, at least one parent moves from the parental home. Furthermore, separation and re-partnering might strain the relationship between parents and children. The young divorcing couples of the 1960s and 1970s have now entered their 'third age'. What are the consequences of their divorce on intergenerational relationships decades later? Current marital status and/or recent change in marital status are routinely included as covariates in research in this area. But there is very little research on the long-term consequence of parental divorce (but see Silverstein *et al.*, 1997; Albetini and Garriga, 2011; Noël-Miller, 2013). Our data contain marriage

⁴Of course, data of matched pairs of parent and child would be even more informative. But such data sets are quite rare and the few that exist are often drawn from relatively small, local samples (e.g. Rossi and Rossi, 1990; Bengtson *et al.*, 2002). Matched pairs data can also be gathered from administrative registers (e.g. van der Pers and Mulder, 2012; Holmlund *et al.*, 2013). One distinct advantage of register data is their very large sample size. However, the relative scarcity of socio-demographic variables in register data limits how much we can learn about the association between individual attributes and intergenerational proximity.

and birth histories, which we use to construct a variable indicating whether or not the parent has divorced or separated while having at least one child of dependent age (i.e. under 16). Similarly, from the child's perspective, we have a variable indicating whether he/she lived with both biological parents at age 16.⁵

Hypothesis 4: Parents who divorced while they had at least one dependent child are more likely to live farther away from the child. Children whose parents divorced when they were of dependent age are more likely to live farther away from their parents.

Better educated people are likely to face a distribution of earning opportunities that has a larger variance, making them choosier in the jobs that they accept and causing them to search longer and over a wider geographical area. Job opportunities requiring a higher level of education may also be more dispersed geographically. The higher income and greater wealth of the better educated could also lead them to search for housing opportunities over a broader area. These tendencies lead us to expect intergenerational proximity to decrease with education (Warnes, 1986; Rogerson *et al.*, 1993; Lin and Rogerson, 1995; Shelton and Grundy, 2000).

Hypothesis 5: Better educated parents (children) are more likely to live farther from their children (parents).

It seems reasonable to assume that most parents have a strong interest in seeing their grandchildren often, and adult children can benefit from help in childcare from grandparents. However, both generations may prefer not to live in three-generation households for reasons of privacy and conflict avoidance (Shelton and Grundy, 2000).

Hypothesis 6: Compared to parents who do not have a grandchild, those who do live closer to their adult children, but are less likely to live with them. Similarly, adult children who have a child live closer to their parents, but are less likely to live with them.

Finally, Hank (2007) reports large cross-national differences in intergenerational proximity,⁶ which he attributes to the strong and weak family systems that have long prevailed in different parts of Europe (Reher, 1998). The

⁵Our indicator variables contrast 'intact families' against all 'non-intact families', irrespective of whether the latter are the result of divorce, widowhood or other family processes.

⁶But there is little cross-national variation in the strength of the covariates of intergenerational proximity (Hank, 2007, p.166).

present paper is a single-country study. But with increasing ethnic diversity in the UK, we expect to see variations in family geography by ethnicity, reflecting their diverse cultural heritage. Prima facie evidence for this can be seen in Beishon *et al.* (1998) who, based on interviews with a small sample, report that African–Caribbeans ‘overwhelmingly, did not want either parents or parents-in-law living with them . . . neither did parents express much desire to live with their adult children.’ But most ‘Pakistanis and Bangladeshis felt that parents and their adult children should live together, with married sons moving their wives in’ (Beishon *et al.*, 1998, pp.16-18, p.61). In this paper, we seek to replicate such contrasts with nationally representative survey data, and to ascertain the extent to which ethnic difference in family geography is due to the socio-demographic differences (e.g. educational attainment, fertility) between ethnic groups. We do not have strong priors on the latter, as previous UK studies are either based on very small local samples (e.g. Atkin and Rollings, 1992; Beishon *et al.*, 1998; Adamson and Donovan, 2005; Victor *et al.*, 2012), or have not included ethnicity as a covariate in the analysis (Glaser and Tomassini, 2000; Shelton and Grundy, 2000).

2 Data

The data we use come from a new household panel survey in the UK called Understanding Society. It was launched in 2009 and, at the time of writing, three waves of data are available for analysis.⁷ In this paper, we use data from wave 1 (2009–10) of the study. Understanding Society is still a very young panel survey. But it is well suited to addressing our research questions for the following reasons. First, it contains detailed questions on intergenerational proximity and contact.⁸ Secondly, with nearly 51,000 respondents in wave 1, the sample size is very large. This allows us to consider intergenerational proximity from the vantage points of both adult children aged 31–54 (we refer to this subsample as our ‘child sample’) and older parents aged 55 or

⁷All individuals aged 16 or over in the sampled households are interviewed each year. Individuals leaving their household are followed, and all adult members of their new household are also interviewed. Data collection, using computer assisted personal interviewing (CAPI) of each wave, lasts 24 months, such that the first wave of data collection started in January 2009 and finished in January 2011. One person completes the household questionnaire. Respondents of the British Household Panel Survey (BHPS) are incorporated into the Understanding Society sample from wave 2.

⁸There is no data on the giving or receiving of help between generations until wave 3 of Understanding Society. Also, the BHPS sample is incorporated into that of Understanding Society from wave 2. So the data analysed in this paper cannot be related back to the BHPS.

over (‘parent sample’).⁹ Thirdly, because there is over-sampling of ethnic minority groups, we are able to examine how family geography varies across ethnic groups. As noted above, the binary contrast between ‘whites’ and ‘non-whites’ might mask significant differences among ethnic minorities.

3 Results

3.1 Intergenerational proximity by age and sex

We start by describing the overall pattern of intergenerational proximity by age and sex, and consider how the observed patterns could be generated by the basic demographic processes of fertility, mortality, and residential mobility. To this end, we combine data on household composition with those on non-coresident children and parents. Regarding the latter, Understanding Society contains a question on which non-coresident relatives respondents have ‘alive at the moment’. Respondents with a child living outside the household are then asked ‘about how long would it take you to get to where your son/daughter (aged 16 or over) lives? Think of the time it usually takes door to door.’ If there is more than one non-coresident child aged 16 or over, parents are asked to think about ‘the one you have the most contact with.’ We refer to this child as the ‘marker child’.¹⁰

About 15 per cent of people aged 55 or over do not have a living child, with this being more likely for men than for women (17 vs 13 per cent).¹¹ As for those who do have a child, the left panel of Table 1 shows that women are slightly less likely than men to live with him/her. But this is offset by a higher probability of women living ‘less than 15 minutes’ from the child.

As expected, proximity is related to the frequency of face-to-face contact. Figure 1 shows that parents and children are much more likely to see each other daily if they live within 15 minutes of each other.¹² Thus, we take this

⁹We focus on children in the age range of 31–54 because their parents are of the ages (roughly mid-50s and older) in which in-kind help may be required. Also, we wish to focus on those who have already completed their transition to adulthood. As we shall see below, a significant proportion of younger people in their 20s have not yet left their parental home.

¹⁰Parents with children under 16 living elsewhere are asked an analogous question. Our coding of proximity to a child is to define them as co-residing if any child lives with the parents, and if all children live outside the household, the coding uses the travelling time to a child aged 16 or over unless there are only children aged under 16.

¹¹All results reported in this paper are weighted to reflect the sampling design and non-response, using the weight variable `a.indinus_xw`.

¹²Daily contact by ‘telephone, email or letter’ also declines sharply as we move from the ‘within 15 minutes’ category to the next closest proximity category (details available from

Table 1: Proximity to marker child for individuals aged 55 or over (left panel) and proximity to marker parent for individuals aged 31–54 (right panel) by gender (column percentage).

	proximity to child			proximity to parent		
	men	women	all	men	women	all
coresidence	21.1	18.3	19.6	5.6	3.1	4.4
less than 15 minutes	32.7	35.8	34.4	31.9	36.9	34.4
15 to 30 minutes	17.0	16.8	16.9	15.9	17.4	16.7
30 min to 1 hour	8.2	9.2	8.7	9.8	9.0	9.4
1 to 2 hours	7.6	7.2	7.4	9.6	8.6	9.1
more than 2 hours	11.7	11.0	11.3	17.2	14.5	15.8
lives/works abroad	1.8	1.7	1.7	10.1	10.5	10.3
<i>N</i>	5947	7135	13082	8321	8524	16845

proximity category as representing cases where parent and child live ‘near’ each other.¹³ We also take the next two categories (i.e. ‘15 to 30 minutes’ and ‘30 minutes to an hour’) as representing ‘intermediate distance’, and the last three categories as ‘long distance’ between parent and child. Using these shorthand expressions, we could say that one fifth of the parents live with the child, about a third live near the child, a quarter live at an intermediate distance from the child, and finally a fifth live far from the marker child.

Turning to people aged 31–54, those with a mother (father) living outside the household are asked ‘About how long would it take you to get to where your mother (father) lives? Think of the time it usually takes door to door.’ It turns out that 16 per cent of people of this age range do not have a living parent, 49 per cent have both parents alive, 26 per cent only have a living mother, and 8 per cent only have a living father. Among those with both parents alive, 87 per cent are in the same proximity category, in large part because the parents live together; in 10 per cent of the cases the mother lives closer to the child than the father, while the opposite holds for the remaining 3 per cent of the cases. Where the two parents are not living together *and* are in different proximity categories, we focus on the parent who lives closer

the authors on request). As in-kind help usually requires physical contact, we also expect such help to diminish with proximity.

¹³Grundy *et al.* (1999) and Shelton and Grundy (2000) use a higher cutoff point of 30 minutes’ travelling time. But corroborative evidence for a threshold at about 15 minutes can be seen in Gray (2005, p.563) who cites evidence that ‘80 per cent of children cared for by their grandparents lived within 20 minutes’ journey of their grandparents’ home; many mothers thought longer journeys made such arrangements unsatisfactory.’ She also cites another paper which ‘find[s] evidence for a lower threshold of 15 minutes’ journey.’

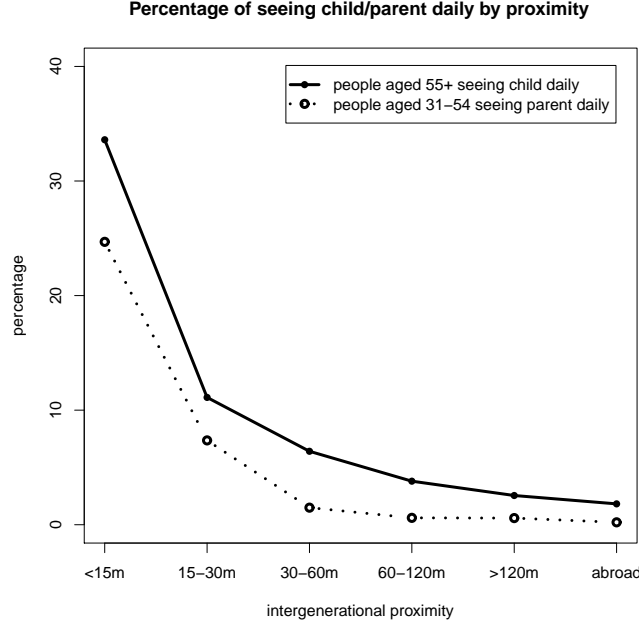


Figure 1: Frequency of seeing child/parent daily by intergenerational proximity (measured in travelling time).

to the child (the ‘marker parent’).

The right panel of Table 1 shows that among adult children aged 31–54, women generally live closer to their marker parent than men, but they are less likely to live with them. Comparing the left and right panels, we see that intergenerational coresidence is much more common when considered from the parent’s rather than the child’s viewpoint (20 vs 4 per cent). This is expected firstly because some parents reporting intergenerational coresidence are living with children younger than 31. Secondly, parents usually live with just one mature adult child, if they live with any of them at all.¹⁴ At the same time, more children report that their parents live abroad than the other way around (10 vs 2 per cent). This is partly because there are more international migrants in the child sample than in the parent sample (14 vs 7 per cent). But apart from the two categories of ‘coresidence’ and ‘living abroad’, the distributions of the marker child and of the marker parent over the remaining proximity categories are remarkably similar.

Several demographic processes for each generation, including age-specific

¹⁴A large difference in the coresidence rate as seen from the parent’s and the child’s viewpoints is also found in China, where intergenerational coresidence is much more common (see Bian *et al.*, 1998).

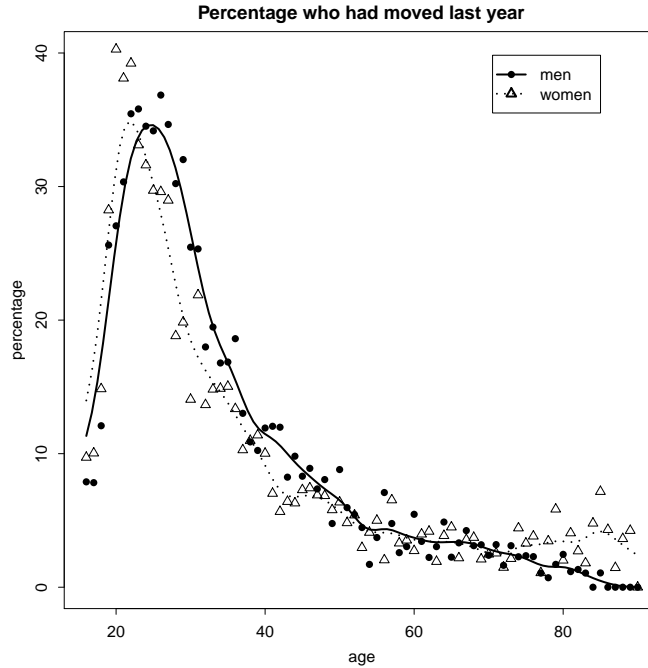


Figure 2: Age profile of residential mobility rate by sex.

rates of fertility, mortality and residential mobility, underpin the pattern shown in Table 1. Starting with residential mobility, Figure 2 shows, by age, the percentage of men and women who have moved to their current address within the past 12 months. At younger ages, women’s mobility rates are higher than men’s, and they peak earlier. This reflects the tendency for women to leave home earlier than men, particularly to form partnerships (Ermisch and di Salvo, 1997; Ermisch, 1999). But, overall, the age profile of residential mobility for the two genders are very similar.¹⁵ Broadly speaking, mobility peaks in young adulthood, with about one third of those in their early-to-mid 20s changing residence each year; this then drops quite sharply and stabilises at about 3 per cent per year from around age 50.

Litwak and Longino (1987) argue that in the US residential mobility rates pick up again in later life. First, upon retirement, some people move quite long distances to locations with a warmer climate and/or better amenities. As they get older and as disabilities start to develop, they might move again, but this time closer to a child. Finally, ‘when the older person is suffering from more severe forms of chronic disability or does not have children’ (Lit-

¹⁵Because there are relatively few respondents over the age of 80 in the sample, the apparent divergence by gender in residential mobility rates at this age range should be interpreted with caution. Details are available from the authors on request.

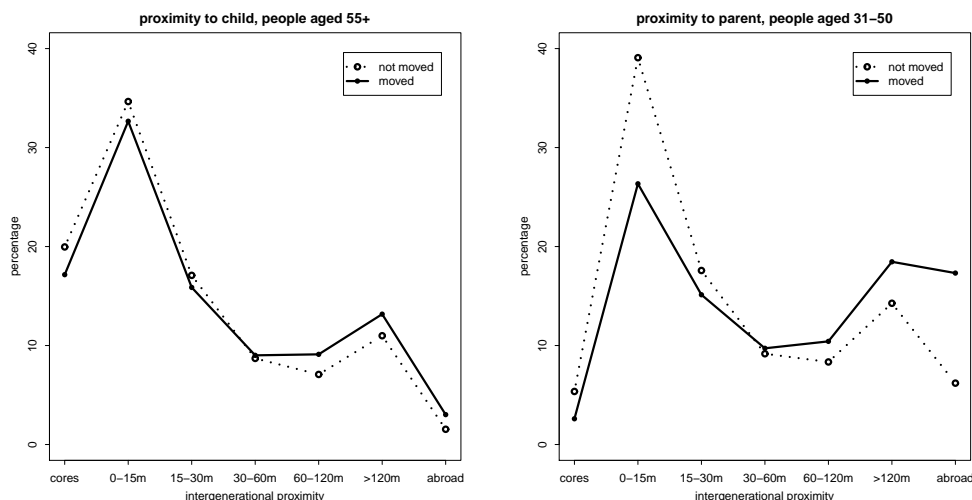


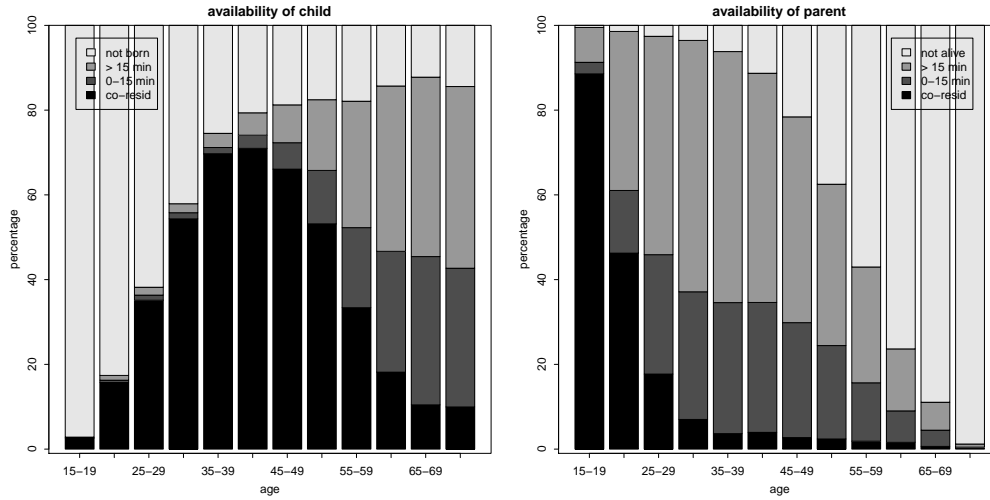
Figure 3: Proximity to child (left panel) and parent (right panel) by whether respondent has moved house in the last 5 years.

wak and Longino, 1987, p. 269), they might move into a care home. However, Figure 2 offers very little evidence for such ‘retirement mobility’ in the UK, especially for men. This might be related to the more limited geographical variation in climate and amenities in Britain as compared to the US, and the greater institutional rigidities in the public rental sector in Britain (Banks *et al.*, 2012).¹⁶ In light of the age profile of Figure 2, we would expect intergenerational proximity to be driven mainly by the residential moves of the younger generation (Warnes, 1986).

In discussing Hypothesis 2 above, we argue that geographic mobility tends to move parents and adult children farther apart (Rogerson *et al.*, 1993). Some evidence for this can be seen in Figure 3. About 9 per cent of the respondents of either sample live 30–60 minutes away from the other generation, irrespective of whether they have moved in the past five years. But there are proportionally more ‘movers’ than ‘stayers’ in categories farther than 30–60 minutes; whilst the opposite holds for shorter distances.

To provide a more concise summary of intergenerational proximity over the life course, we distinguish four states in the analyses below: (1) cores-

¹⁶The lack of ‘retirement mobility’ within the UK is *not* due to pensioners emigrating from the country. A recent Home Office study reports that ‘[m]ost of the long-term emigrants from the UK were of working age. Almost 93 per cent of those emigrating in 2010 were aged between 15 and 59 or 64 years (for women and men respectively)’ (Murray *et al.*, 2012, p.10). Among male emigrants, only 2 per cent were aged 65 or over, and among female emigrants only 3 per cent were aged 60 or over (Murray *et al.*, 2012, p.11, Table 1).



Note: each column represents a five-year age band, with the last column representing people aged 70 or over.

Figure 4: Availability of child (left panel) and of parent (right panel) by age.

idence, (2) non-coresidence but living ‘near’ the other generation (i.e. less than 15 minutes of travelling time), (3) non-coresidence and ‘far’ from the other generation (i.e. travelling time of 15 minutes or more), and (4) not alive (or not yet born in the case of children).

The left panel of Figure 4 describes the distribution of proximity to the child over these four states by age.¹⁷ The existence of a natural child reflects fertility patterns over the life course. By ages 30–34, over half of the respondents (54 per cent) have at least one child and they are living with them. By ages 40–44, a small proportion of people (8 per cent) have a child living outside the household. After the parent’s mid-40s, intergenerational coresidence declines steadily, and it becomes increasingly likely that the parents live far from the marker child. Thus, consistent with Hypothesis 2, proximity declines with parent’s age. Nevertheless, 10 per cent of British people aged 65 or older live with one of their children.

The right panel of Figure 4 shows how proximity to parent varies with children’s age. This reflects the process of children leaving the parental home at younger ages and, at later ages, parents’ mortality. From the child’s viewpoint, intergenerational coresidence drops to 3 per cent or lower from their

¹⁷We group respondents by five-year age bands, with the last age band refers to those aged 70 or over. We hasten to add that Figure 4 is based on cross-sectional data. Thus, it reflects not just life course pattern but also cohort differences.

mid-40s. From about their mid-30s, and conditional on having a surviving parent, about twice as many people live far from the parents as near them. There is a difference between mothers and fathers in terms of proximity (results not shown), reflecting the likelihood that the child remains with the mother after parental break-up. So, for instance, less than 60 per cent of those aged 15–19 live with their natural father compared with 85 per cent who live with their mothers.

3.2 Hypotheses assessed

Who is more likely to live with the marker child/parent? And what determines whether one lives near or far from the other generation? We answer these questions with multinomial logistic regression models.¹⁸ Our models control for age (and a quadratic term of age), sex, marital status, and whether the respondent is foreign-born.¹⁹ Some descriptive statistics of the explanatory variables are provided in Table 4 in Appendix A. Tables 2 and 3 report the parameter estimates of the model for our parent sample and child sample respectively.

To begin with, it can be seen that mothers are less likely than fathers to live with the marker child (left and middle columns of Table 2), and daughters are less likely than sons to live with the marker parent (Table 3). Daughters are also more likely than sons to live near their parents rather than far from them (right column of Table 3).

Secondly, the multivariate analysis produces age profiles that are qualitatively very similar to those illustrated in Figure 4. The top left panel of Figure 5 shows that, for white parents aged 55 or over, intergenerational coresidence falls (initially quite sharply) as they age, mainly reflecting the departure of the youngest child from the parental home.²⁰ At age 55, just over a quarter of white parents live near the marker child, and this proportion

¹⁸As Compton and Pollak (2013) point out, intergenerational coresidence is qualitatively different from living near one’s parent or child. Thus, there is a non-linear relationship between the proximity categories and the covariates, and a multinomial logit model provides a better description of the data than do ordered logit or OLS models.

¹⁹In contrast to the other variables upon which we have focused, marital status and the presence of a grandchild clearly can change over time. We include a quadratic term of age to accommodate the non-linear age pattern that is evident in Figure 4. And since migrants are much more likely to have extended family members living abroad, it seems necessary to control for whether respondent is foreign-born.

²⁰The predicted probabilities of the top left panel of Figure 5 are calculated as follows. We first select from our sample all respondents aged 55 or over, and treat as though they are all white and aged 55. All other covariates take on their actual values. We then compute, based on the multinomial logit model of Table 2, the predicted probabilities of the respondents belonging to the three response categories. Finally, the predicted

Table 2: Parameter estimates (impact on log-odds) of multinomial logit model, proximity to marker child as dependent variable, for people aged 55 or over ($N = 11,111$).

	cores vs <15min		cores vs ≥ 15 min		<15 vs ≥ 15 min	
	β	s.e.	β	s.e.	β	s.e.
mother	-.261**	.070	-.241**	.068	.020	.047
age	-.716**	.055	-.631**	.053	.084*	.039
age squared	.004**	.000	.003**	.000	-.000**	.000
Indian ^a	.888**	.257	.588*	.226	-.300	.218
Pakistani	1.547**	.420	1.764**	.382	.216	.443
Bangladeshi	1.308	.776	2.653**	.865	1.344	.809
Caribbean	.222	.297	-.036	.268	-.259	.239
African	.810	.418	.711*	.357	-.099	.402
Chinese	-.670	.911	-.451	.779	.219	.563
Turkish	.545	.602	1.097	.605	.552	.570
foreign-born	.609**	.160	.266	.143	-.343**	.122
sep/divorced ^b	.128	.126	-.159	.119	-.287**	.079
widowed	.719**	.105	.745**	.103	.026	.066
cohabiting	-.603*	.234	-1.114**	.217	-.510**	.131
further educ ^c	-.360**	.137	.077	.124	.437**	.097
a-level	-.388**	.136	.279*	.126	.667**	.093
gcse	-.366**	.129	.243*	.117	.610**	.091
other qual	-.369*	.176	.268	.165	.637**	.114
no qual	-.367**	.113	.555**	.102	.922**	.079
2 children	1.997**	.194	2.176**	.190	.178*	.069
3 children	2.515**	.198	2.872**	.195	.356**	.077
4+ children	3.121**	.203	3.590**	.201	.469**	.086
1 sibling	-.158	.095	-.212*	.092	-.053	.060
2 siblings	-.154	.105	-.246*	.101	-.092	.066
3 siblings	-.261*	.120	-.321**	.116	-.059	.080
4 siblings	-.203	.153	-.372*	.149	-.169	.103
5+ siblings	-.367**	.129	-.252	.128	.115	.090
div w/ dep. child	.020	.093	-.275**	.089	-.295**	.062
grandchildren	-1.509**	.081	-.895**	.073	.613**	.062
constant	25.111**	1.920	21.246**	1.823	-3.865**	1.385

Notes: reference categories: ^a whites, ^b married, ^c degree; * $p < .05$, ** $p < .01$

Table 3: Parameter estimates (impact on log-odds) of multinomial logit model, proximity to marker parent as dependent variable, for people aged 31 to 54 ($N = 14,713$).

	cores vs <15min		cores vs ≥ 15 min		<15 vs ≥ 15 min	
	β	s.e.	β	s.e.	β	s.e.
daughter	-.469**	.119	-.356**	.117	.113**	.040
age	-.087	.112	-.206	.109	-.119**	.042
age squared	.001	.001	.002	.001	.001*	.000
Indian ^a	2.237**	.223	2.145**	.218	-.091	.118
Pakistani	1.875**	.280	2.527**	.274	.651**	.155
Bangladeshi	2.472**	.369	3.033**	.362	.561**	.193
Caribbean	.731*	.303	.281	.297	-.449**	.141
African	.898	.478	-.462	.407	-1.361**	.262
Chinese	1.265*	.591	.427	.490	-.838**	.315
Turkish	1.395*	.633	.423	.541	-.972**	.352
foreign-born	.613**	.195	-1.229**	.181	-1.843**	.101
married ^b	-2.847**	.143	-2.813**	.139	.034	.069
sep/divorced	-1.037**	.181	-.939**	.176	.098	.088
widowed	-1.587**	.600	-1.832**	.572	-.245	.246
cohabiting	-3.457**	.300	-3.519**	.299	-.061	.078
further educ ^c	-.065	.197	.768**	.193	.834**	.067
a-level	-.030	.178	.946**	.174	.976**	.062
gcse	-.027	.172	1.149**	.169	1.176**	.059
other qual	-.379	.273	.909**	.268	1.288**	.091
no qual	.439*	.197	1.488**	.191	1.049**	.077
1 sibling	-.549**	.190	-.595**	.187	-.045	.079
2 siblings	-.727**	.204	-.800**	.201	-.073	.081
3 siblings	-.464*	.217	-.609**	.213	-.145	.089
4 siblings	-.614*	.260	-.735**	.255	-.121	.104
5+ siblings	-1.212**	.265	-1.143**	.260	.068	.102
has child	-1.319**	.137	-.947**	.134	.371**	.056
par sep/div	-.944**	.206	-1.264**	.204	-.320**	.058
constant	2.575	2.292	3.923	2.242	1.348	.879

Notes: reference categories: ^a whites, ^b single, ^c degree; * $p < .05$, ** $p < .01$

first rises to about 39 per cent before dipping slightly at older ages. Finally, there are always more parents living far from the child rather than near the child, and the proportion of the former increases monotonically over the age range considered, such that by age 70 more than half are at least 15 minutes away from the child.

From the perspective of adult white children (bottom left panel of Figure 5), intergenerational coresidence is much rarer and stays at the level of about 4 per cent between ages 31 and 54. The percentage of children living near their parents declines from 40 to 33 per cent, while a progressively higher percentage lives far from the parents, reaching 63 per cent at age 54. Thus, in line with Hypothesis 2, geographical distance increases with age for both parents and children.

As regards ethnicity, Tables 2 and 3 confirm that, net of other covariates, intergenerational coresidence is significantly more common among some ethnic minorities than among ‘whites’.²¹ The propensity for intergenerational coresidence is especially strong for Pakistanis and Bangladeshis. The distinctiveness of these two ethnic groups can also be seen from the last column of Table 3 where, compared with ‘whites’, adult children of Pakistani or Bangladeshi descent are more likely to live near their parents rather than far away. The opposite is true for adult children of other minority ethnic groups.²²

To illustrate the substantive magnitude of the net ethnic differences, we plot the age profiles of intergenerational proximity for Pakistani parents (top right panel of Figure 5) and children (bottom right panel). Overall, the shape of these profiles is very similar to those shown for white parents and children in the left column. But their levels are very different. For example, at age 55, 72 per cent of Pakistani parents live with at least one child, dropping to 27 per cent at age 79. For white parents, the drop is from 40 to 8 per cent.

Controlling for ethnicity and other covariates, foreign born parents are more likely to live with their child or at least 15 minutes away, rather than near the child (see Table 2). Similar patterns are found for foreign born adult children. In addition, they are more likely to live far from their parents

probabilities are averaged. In other words, they are the mean of the individual predictions, not the predicted proportions evaluated at the mean of the covariates. This process is then repeated by assuming all respondents are white and aged 57, white and aged 59, and so on. The predicted probabilities shown in Figure 6 to 9 are based on the same model and calculated in an analogous way.

²¹The parameter of Bangladeshi parents in the first column of Table 2 (i.e. the contrast between coresidence vs living near their children) is marginally insignificant with $p = .092$.

²²The ‘Chinese’ ethnic group also includes other ‘Far Eastern’ groupings, and the ‘Turkish’ ethnic group also includes ‘Middle Eastern/Iranians’.

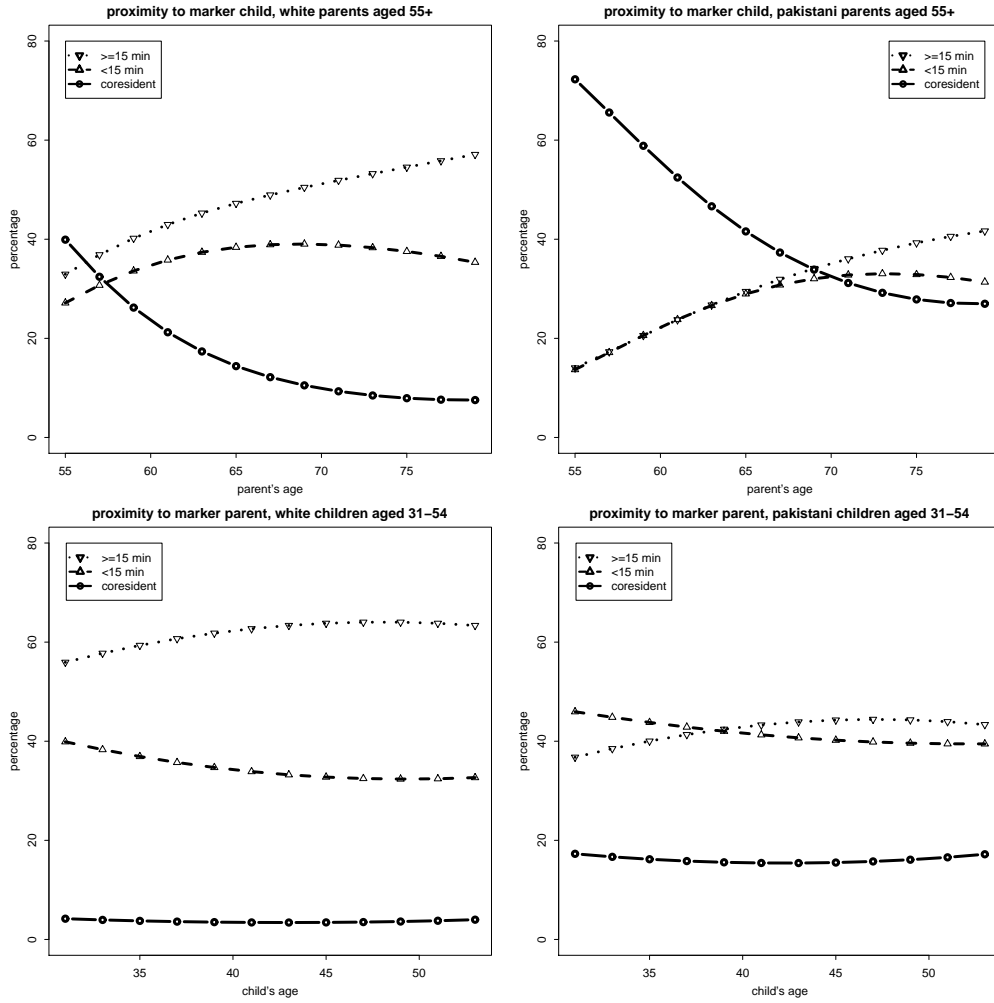


Figure 5: Ethnicity and intergenerational promixity: predicted age profile of intergenerational proximity for white parents (top left panel), white adult children (bottom left panel), Pakistani parents (top right panel) and Pakistani adult children (bottom right panel).

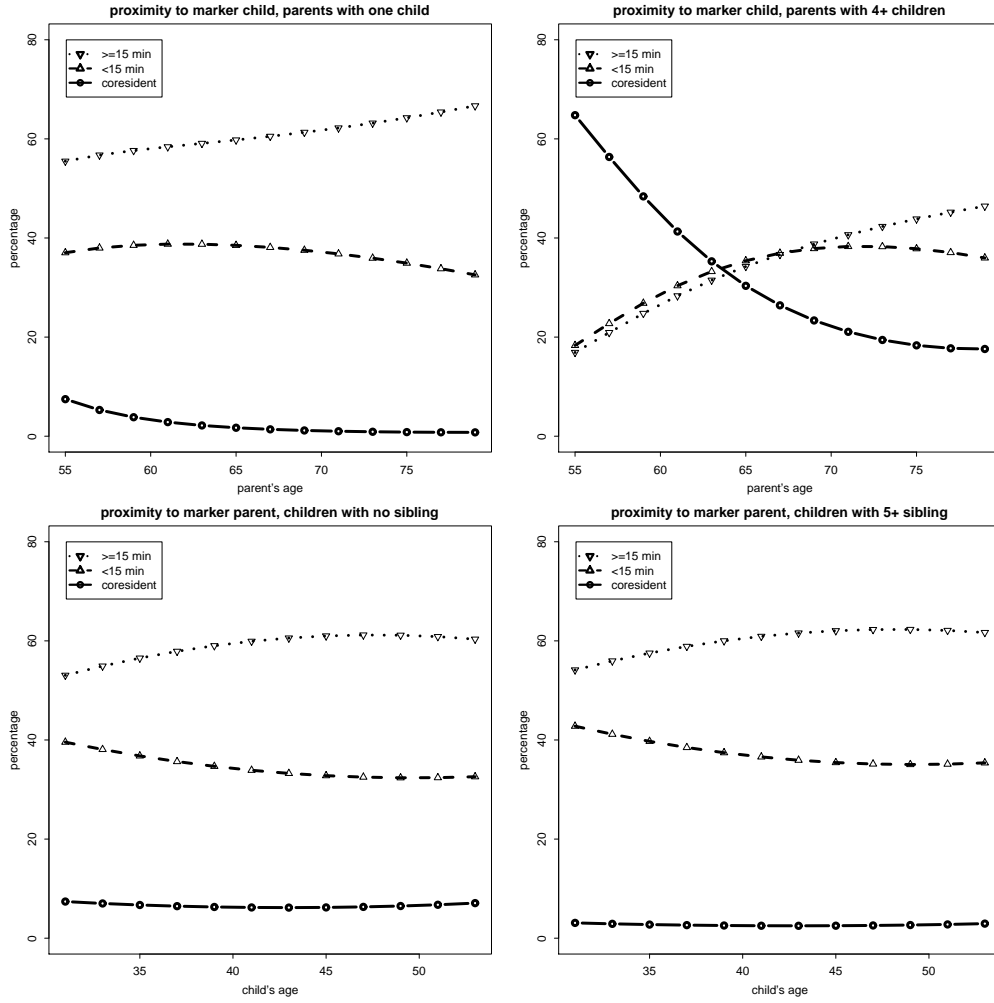


Figure 6: Fertility/sibship size and intergenerational proximity: predicted age profile of intergenerational proximity for parents with one child (top left panel), parents with four or more children (top right panel), children with no sibling (bottom left panel) and children with five or more siblings (bottom right panel).

rather than with them (see middle column of Table 3).

Table 2 also shows that intergenerational proximity increases strongly and monotonically with number of children. The substantive magnitude of these associations is very large. As can be seen from Figure 6, among parents who have just one child (top left panel), the coresidence rate declines from 7 to 1 per cent between ages 55 and 79. In contrast, almost two thirds of those parents with four or more children (top right panel) live with at least one child at age 55. At age 79, their coresidence rate still stands at 18 per cent.

Also, the top left panel of Figure 6 shows that for parents with just one child, living far from the child is, by a wide margin, the most likely outcome throughout the age range considered. But this is not the case for parents with four or more children (top right panel), where parents are just as likely to live near the marker child as far from him/her up to age 70. Overall, the result of our multivariate analyses is consistent with Hypothesis 1.

Table 3 shows that, compared with adult children who are an only child, those with siblings are less likely to live with their parents. However, number of siblings does not predict whether adult children live near or far from the parents. Moreover, the bottom panels of Figure 6 show that the age profiles of intergenerational proximity of those with no sibling (bottom left panel) are broadly similar to those with five or more siblings (bottom right panel).²³ Thus, the result of our multivariate analysis is inconsistent with Hypothesis 3. This puts the UK in a group of European countries, including France, Sweden and Denmark, which also show weak impacts of having a sibling on geographic proximity to parents,²⁴ and in contrast to ‘extended family countries’ such as Italy and Spain, in which the family, rather than the market or the public sector, plays an important role in supporting the parent generation in their later years (Rainer and Siedler, 2012).

Turning to the effect of parental divorce on intergenerational proximity, the evidence from Table 2 is consistent with Hypothesis 4: parents who had divorced while their children were 16 or younger are more likely to live far from the marker child. However, the magnitude of the relevant parameters is relatively modest. For parents whose marriage had stayed intact while their children were under 16, the proportion living far from the marker child rises

²³We have fitted a model which is the same as that reported in Table 3, but with the five dummy variables for siblings replaced with a single binary contrast between only children and respondents with one or more siblings. The age profile of proximity implied by that parameter is very similar to that shown in the bottom-right panel of Figure 6. Details are available from the authors on request.

²⁴As noted earlier, contrary to what is found for the Netherlands by Rainer and Siedler (2012), evidence from the large sample in van der Pers and Mulder (2012) indicates that the only children indeed live closer to their parents.

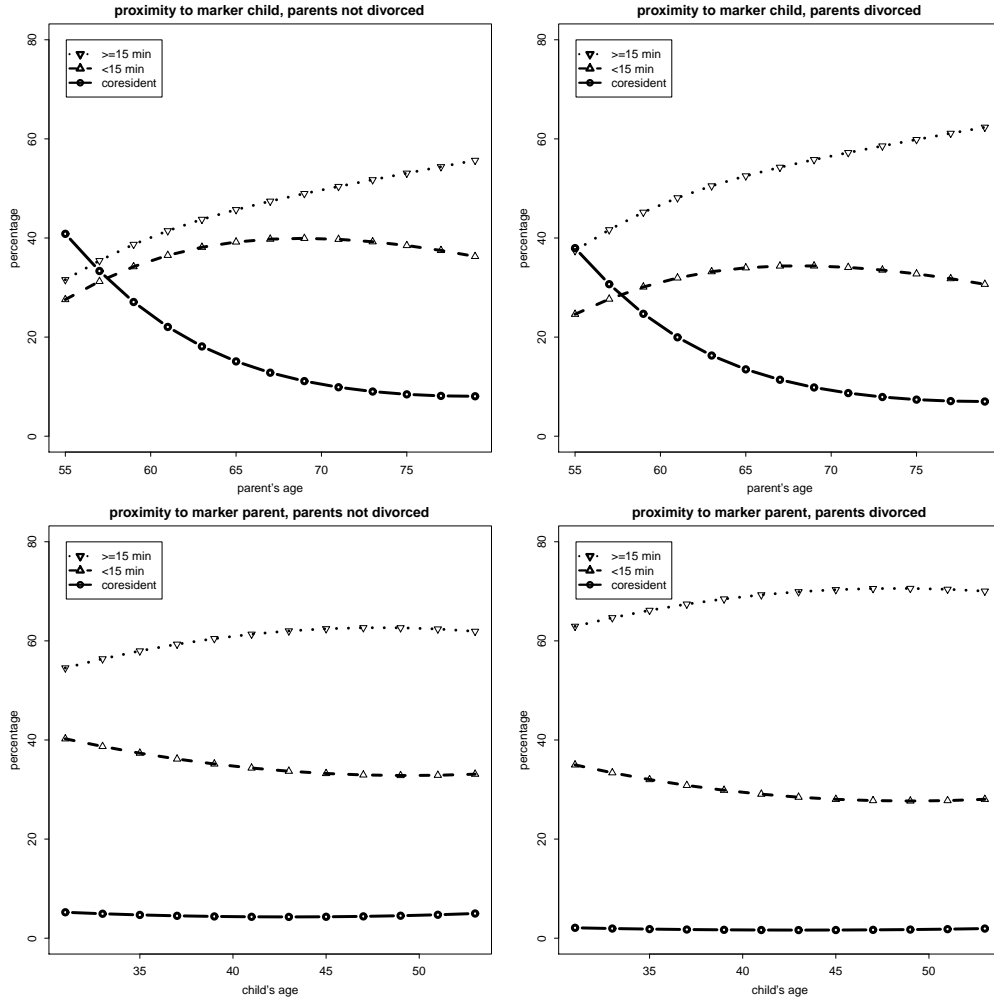


Figure 7: Parental divorce and intergenerational proximity: predicted age profile of intergenerational proximity for parents who had not divorced with dependent child (top left panel), parents who had not divorced (top right panel), children who did not experience parental divorce (bottom left panel) and children who experienced parental divorce (bottom right panel).

from 31 to 56 per cent (see top left panel of Figure 7), compared to a rise from 37 to 62 per cent for parents who had divorced (top right panel).

From the perspective of the adult children, the results of Table 3 are also consistent with Hypothesis 4: those who had experienced parental divorce as a child are less likely to live with or live near the marker parent. But the magnitude of this effect is again relatively modest (compare the two bottom panels of Figure 7). In a supplementary set of analysis we model distance to father and mother separately (details available on request), and show that the divorce effect is much larger for proximity to father than for proximity to mother. Such a pattern can be considered as a continuation of previous living arrangements, as children often live with their mother rather than their father after parental divorce.

As regards education, Tables 2 and 3 show that, university graduates are less likely to live with or near the other generation rather than far away. Moreover, parents with a degree are more likely to live with the marker child rather than near him/her. The substantive magnitude of these education parameters is quite large. For example, the top left panel of Figure 8 shows that, at age 55, 43 per cent of university-educated parents live far from the marker child, rising to 70 per cent at age 79. But if the parents have no qualifications (top right panel), the rise is from 28 per cent to 51 per cent.

There is a similarly large difference in intergenerational proximity by educational attainment from the child's viewpoint. The bottom left panel of Figure 8 shows that among adult children with a university degree, the proportion living far from their parents rises from 72 to 78 per cent. But among those with no qualifications, the increase is from 48 to 56 per cent. This is consistent with Hypothesis 5.

Also, in line with Hypothesis 6, grandchildren are associated with significantly lower odds for coresidence between adult children and older parents, but higher odds that they live near each other. This is true from both the parent's (Table 2) and the child's (Table 3) viewpoints. But in terms of its substantive magnitude, the presence of grandchildren seems to matter much more for older parents than for adult children (compare the top row with the bottom row of Figure 9).

Finally, Tables 2 and 3 also show that current marital status is associated with intergenerational proximity. Among respondents aged 55 or over, widows/widowers are more likely to live with their child, while the divorced/separated and cohabitators are more likely to live far away from their children. Among people aged 31–54, the most distinguishing feature is a greater chance of coresidence with their parent amongst the single, never married.

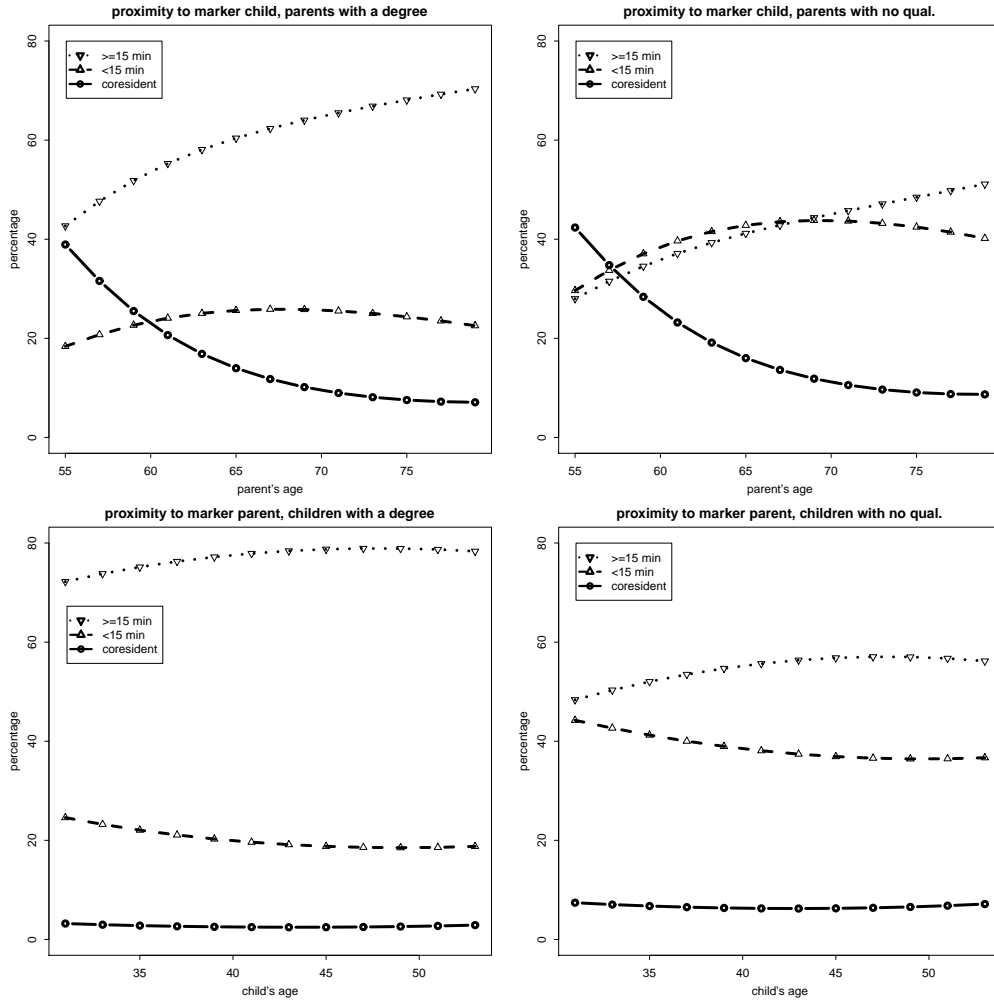


Figure 8: Education and intergenerational proximity: predicted age profile of intergenerational proximity for parents with a degree (top left panel), parents with no qualifications (top right panel), children with a degree (bottom left) and children with no qualifications (bottom right panel).

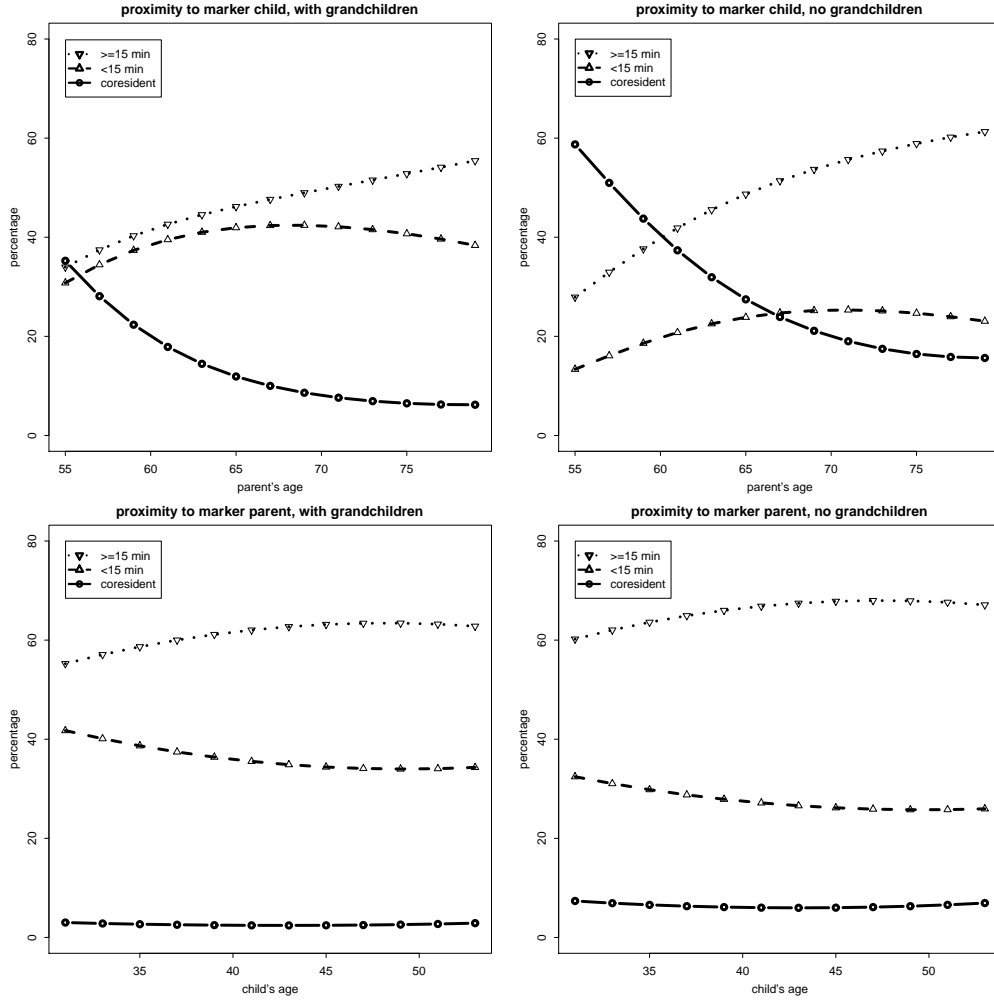


Figure 9: Grandchildren and intergenerational proximity: predicted age profile of intergenerational proximity for parents with a grandchild (top left panel), parents without a grandchild (top right panel), children with a child (bottom left panel), and children without a child (bottom right panel).

4 Summary and implications

In this paper we use data from wave 1 of Understanding Society to study the link between family geography and family demography in contemporary British society. We show that because there is relatively little ‘retirement mobility’ in the UK, intergenerational proximity is driven primarily by the residential moves of the younger generation. We also show that as parents (children) get older, they tend to live farther from their children (parents).

We have argued that a more complete picture of family geography can be gained by taking the viewpoints of both the parent and the child. And this is borne out by the data. Intergenerational coresidence is much more common if considered from the parent’s viewpoint. Moreover, parents with more children are unambiguously and substantially more likely to have at least one child living nearby. However, from the child’s viewpoint, conditional on non-coresidence, distance to parents is not related to number of siblings.

Future demographic trends are of course difficult to predict. But if the associations reported in this paper were to continue, the falling fertility rate in the UK would have different implications for the two generations.²⁵ For parents, fewer children would imply greater geographical distances to their nearest child. But the impact on family geography of fewer siblings is more modest for adult children.

We also report substantial difference in family geography by education, with university graduates being much less likely than non-graduates to live near the other generation. In the UK, the higher education participation rate index (i.e. the number of home entrants to higher education aged under 21 relative to average population aged 18–19) rose from 6 per cent for people born in 1941–42 to 15 per cent among people born in 1965–66, and it has risen substantially for subsequent birth cohorts, reaching 38 per cent for people born in 1991–92.²⁶ If the regional disparities in the graduate labour market persist (Wright, 2011), rising higher education participation in the UK is consistent with decreasing intergenerational proximity.

Marital instability is also relevant to family geography. The percentage of ever-married British women divorcing by the age of 40 rose from 6.8 per cent among those born in 1930 to 27.7 per cent among those born in 1960.²⁷

²⁵Comparing women born in 1930 with those born in 1966, average completed fertility among mothers (i.e. excluding childless women) fell from 2.7 children to 2.4 children per woman. The percentage of mothers having three or more children fell from 45 per cent to 35 per cent. See Birth Statistics (FM1), 2008, Tables 10.2 and 10.3; and Cohort Fertility, England and Wales, 2011, Table B.

²⁶Department for Education and Skills, various years; and Department for Business, Innovation and Skills, 2013.

²⁷Marriage and Divorce Statistics 2008; ratio of women ever divorced to women ever

Given the high divorce rate, there is concern about its long-term implications for intergenerational relationships, especially the informal care and support that is available to older parents. Our results confirm that, as the divorcees of previous decades enter their ‘third age’, divorce is indeed associated with greater geographical distances between parents (especially the father) and children. But it should be noted that such parents need not have a strained relationship with all of their children. It is possible that after the breakup of their first marriage, they have children from a second marriage with whom they lived throughout their childhood and teenage years. Indeed, from the parents’ viewpoint, the magnitude of the ‘divorce effect’ is relatively modest.

There are large but uneven ethnic differences in family geography, with Pakistanis and Bangladeshis being especially likely to live with or near the other generation. The UK is becoming ethnically much more diverse. The share of ‘white British’ in the population is projected to decline from 87 per cent in 2001 to about 70 per cent in 2051. In recent years the fastest growing non-white ethnic groups are Black Africans, Pakistanis, and Indians (Lievesley, 2010, p.4). The implication of greater ethnic diversity for intergenerational relationships is quite complex. On the one hand, Pakistani, Bangladeshi, Black African communities are younger in their age structure and have higher fertility rates than whites (Lievesley, 2010). This would suggest that older members of these communities will have more adult children to care for them. On the other hand, Blacks and South Asians also tend to have worse health than whites. The Parliamentary Office of Science and Technology (2007, p.2) notes that ‘[m]en born in South Asia are 50% more likely to have a heart attack or angina . . . men born in the Caribbean are 50 per cent more likely to die of stroke than the general population.’ Using longitudinal data from a fairly large community-based cohort study, Williams *et al.* (2012) show that South Asians are more likely to report disabilities than Europeans, even after adjustment of socioeconomic and behavioural factors and other health conditions at baseline.²⁸ This would suggest that the South Asian communities might have a greater need for intergenerational support.

We also show that having a grandchild is associated with a higher probability of living near the marker child, but a lower probability of living with him/her. From the child’s viewpoint, the association between having a child and proximity to older parents is much weaker.

married by age 40.

²⁸Using data from the ONS Longitudinal Study, Scott and Timaeus (2013, p.743) note that ‘White, Black Caribbean, Other Asian and Other immigrants all had lower mortality than Whites born in the UK.’ They also confirm that ‘the UK-born Black Caribbean group had higher mortality . . . than the UK-born Whites.’

While there are these structural influences on geographic proximity between the generations, it is important to stress that both generations usually move house for many reasons, most of which are not related to the exchange of help between generations. Mobility of the younger generation is particularly important. Our analysis indicates the people who tend to move more during their life course generally live farther away from their parent or adult child. Thus, as van der Pers and Mulder (2012) also stress, it is important to think of generational proximity in terms of the life course patterns of mobility more generally.

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A Descriptive statistics

Table 4: Distribution of respondents across categories of covariates (percentages of total) or mean value of covariate.

	parent	child
female	55.4	50.5
White	96.8	89.4
Indian	1.3	3.7
Pakistani	0.4	1.4
Bangladeshi	0.1	0.5
Caribbean	0.7	1.5
African	0.3	1.8
Chinese	0.2	1.0
Turkish	0.1	0.7
foreign-born	6.7	13.8
single		13.8
married	67.5	60.6
sep/divorced	10.2	9.3
widowed	19.0	0.7
cohabiting	3.3	15.7
degree	13.0	29.5
further educ	11.0	14.0
a-level	12.3	18.6
gcse	13.5	22.0
other qual	6.3	5.8
no qual	44.0	10.1
1 child	12.6	
2 children	46.9	
3 children	24.7	
4+ children	15.9	
no sibling	27.8	8.2
1 sibling	28.6	35.3
2 siblings	19.4	26.8
3 siblings	10.6	14.2
4 siblings	5.7	7.2
5+ siblings	8.1	8.4
div w. dep.child	20.2	14.8
grandchildren	76.9	76.5
age (mean)	68.4	41.6