

# Proximity of Couples to Parents: Influences of Gender, Labour Market and Family

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## Abstract

We use household survey data from the UK to study how close ‘middle-aged’ men and women in partnerships live to their own parents and their partner’s parents. We find a slight tendency for couples to live closer to the woman’s parents than the man’s. This tendency is more pronounced among couples in which neither partner has a degree and in which there is a child. In other respects, proximity to parents is gender neutral, with the two partners having equal influence on intergenerational proximity. Better educated couples live farther from their parents. And although certain family characteristics matter, intergenerational proximity is primarily driven by factors affecting mobility over long distances, which are mainly associated with the labour market, as opposed to gender or family circumstances.

## 1 Introduction

An important determinant of the provision of in-kind help by adult children to parents, or vice versa, is the geographical proximity of the two generations. For people with a live-in partner, either married or cohabiting, intergenerational proximity reflects, in principle, the decisions of at least three sets of agents: the couple (who must negotiate among themselves) and the two sets of parents.<sup>1</sup> In practice, moving costs are often non-negligible and there are frictions in residential moves. This makes prior location choices important. In particular, local ties that are developed over time by living in the same place increase the costs of longer-distance mobility (McGinnis, 1968).<sup>2</sup> For

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<sup>1</sup>If any of the parents are divorced, the situation becomes even more complex.

<sup>2</sup>Evidence for this is the negative impact of local friendship networks on longer distance movement (Belot and Ermisch, 2009).

this and other reasons, most residential moves are made by younger people in their 20s and 30s and, in the UK at least, there is very little retirement mobility (see Chan and Ermisch, 2014, Figure 2). Given this, we will assume that parents are relatively fixed in their locations, and that intergenerational proximity is driven primarily by children’s location decisions. The focus of this paper is the negotiation between middle-aged married or cohabiting partners.

In general, partnership formation reduces mobility as movement needs to be negotiated between two people. But the initial negotiation positions of the partners differ from case to case. For example, two people may both have moved, for independent reasons, to a new location where they meet and eventually form a partnership. In this case, the partners are on equal footing in terms of local ties. Alternatively, one partner might have moved into the local area of the other; in which case, the latter is likely to have stronger local ties and higher mobility costs than the former. We will elaborate this point in Section 3 below. Suffice it to say here that because our data is cross-sectional in nature, we cannot study the dynamics of intergenerational proximity directly.<sup>3</sup> Instead, our focus is the eventual outcome of that dynamics.

This limitation of our data notwithstanding, an analysis of residential location as a couple’s decision has at least two advantages over much of the existing literature which is mainly individual-based (e.g. Hank, 2007; Shelton and Grundy, 2000; Rainer and Siedler, 2009, 2012), save for a few notable papers (Blaauboer *et al.*, 2011; Løken *et al.*, 2013; Compton and Pollak, 2013). First, the characteristics of both partners can be taken into account, potentially providing better estimates of how individuals’ circumstances affect intergenerational proximity. Second, we may be able to make inferences about the relative influence of the two partners.

Features of residential location other than proximity to parents are of course important in location decisions. These are in turn influenced by individual and household circumstances, and the partners’ preferences and bargaining power. In particular, previous research has consistently found that better educated individuals are geographically more mobile (see e.g. Machin *et al.*, 2012). For instance, in the data that we analyse below, 6.6 per cent of couples in which both partners have a university degree moved in the following year, compared with 3.9 per cent of those in which neither partner has a degree. Since residential moves tend to increase intergenerational distance (Rogerson *et al.*, 1993), our expectation is that, among educationally homog-

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<sup>3</sup>To study the dynamics of intergenerational proximity, we would need residence mobility data for *both partners* for up to 36 years (from age 18 to 54).

amous couples, those with more education live farther from their parents.<sup>4</sup> This may be because they operate in a geographically wider labour market, or because they left home to study and partnered with someone far from their parental home, or for other reasons. As we will explain below, educationally homogamous couples might serve as reference points in the analysis of the location decisions of heterogamous couples.

Each partner's influence on residential location is the subject of a literature in economics and geography, much of which stemmed from a seminal paper on 'family migration' by Mincer (1978). One view, based on the assumption that the man's career is more important for the couple's resources, is that the man is dominant in location decisions that involve comparing different labour markets, and perhaps also in decisions about different locations in the same labour market. If both partners desire to live near their own parents, then male dominance would lead to locations that are, on average, closer to his parents. Such a tendency might be tempered by the fact that most residential moves are of short-distance, making it possible that women's preferences are given more weight when considering different locations within a labour market. Because daughters usually have more contact with and give more help and care to parents than sons, women may have a stronger preference than men to live near parents. As Blaauboer *et al.* (2011) argue, the net effect of gender differences in power and in the strength of family ties could favour proximity to either the man's or the woman's parents.

An alternative view is that the bargaining power of the two partners is a function of the resources that they bring into the partnership. This implies that the weight given to the woman in location decisions (local as well as longer distance moves) would be increasing in her earning power relative to her partner's.<sup>5</sup> Løken *et al.* (2013) discuss bargaining power effects in the context of proximity to parents. Because it is relatively persistent differences in earning power that are important, we distinguish couples by their educational attainment. The expectation is that, provided that both partners prefer to live close to their own parents, the couple would, for given employment opportunities, live closer to the parents of the better educated partner.

Our main research question is which partner's education is more important in determining distance to parents, and in what direction. In addition

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<sup>4</sup>The associations between distance from parents and an individual's education are consistently positive (see e.g. Shelton and Grundy, 2000; Hank, 2007; Compton and Pollak, 2013; Blaauboer *et al.*, 2011; Løken *et al.*, 2013; Chan and Ermisch, 2014).

<sup>5</sup>See Ermisch and Pronzato (2008) for such effects on men's child support payments in Britain, and on bargaining power effects, see Basu (2006), Chiappori *et al.* (2002), Couprie (2007), Lundberg and Pollak (1996), Lundberg *et al.* (1997) and Rangel (2006).

to its intrinsic interest, an answer to this question sheds light on the relative bargaining power of men and women, and on the role of the labour market in location decisions. Second, we ask what individual and couple attributes other than gender and education affect intergenerational proximity.

We find a slight tendency for couples to live closer to the woman's parents than to the man's. But a model postulating equal weights on the education levels of the two partners fits the data very well. Equal weights strongly suggest that there is no bargaining effect that works through the partners' education levels. Better educated couples tend to live farther from their parents. Certain family circumstances do predict intergenerational proximity. In particular, the presence of children favours locations that are closer to the woman's parents. Overall, we conclude that intergenerational proximity is primarily driven by factors that affect mobility over longer distances (i.e. to places outside the local area), which are mainly associated with the labour market, as opposed to gender or family circumstances.

## 1.1 Previous literature on couples

Three papers directly address the proximity of couples to the two sets of parents. Here we focus on the nature of their data, the characterisation of partners' education and the impacts of education on proximity, leaving other comparisons with our results for later in the paper. Blaauboer *et al.* (2011) uses data from the Netherlands Kinship Panel Survey for persons aged 18–79. It collects information on the  $x - y$  coordinates of location, allowing the computation of the linear distance between the couple and parents. A disadvantage is that there is only one respondent, who provides information on socio-economic variables (e.g. education) and residential location for parents and parents-in-law, as well as for themselves. The male partner's education is found to have stronger effects on distance to both sets of parents than the female's.

Compton and Pollak (2013, Table 8) contains a relatively limited analysis of couples' proximity to each partner's mother (both alive living in the USA), using the National Survey of Families and Households, for persons aged 25 and over. It estimates a multinomial logit model distinguishing co-residence, near mother (within 30 miles) and farther (30 miles or more). Partners' education is categorised as both having a college degree, one partner having a degree (2 categories distinguishing which partner has it) and neither having a degree. Couples in which one or both partners have a degree live farther from their mothers, with the impact being weaker if only the woman has a degree.

Løken *et al.* (2013) uses Norwegian registry data to study each partner's distance from parents for a sample of women who are 34, married and whose parents do not live in the same postcode as their partner's parents. Distance is measured in the following categories relative to parents: same postcode, same municipality, same county, same region, different region. The couples' analysis is in terms of a multinomial logit for relative distance: same category, nearer her parents, nearer his parents. It distinguishes between the college educated and the rest, and the effect of husband's education on proximity is several times larger than that of the wife.

Our study makes a number of contributions. First, it uses a large and nationally representative household survey for the United Kingdom and focuses on middle-aged (aged 31–54) couples, who are more likely to be called upon for help from parents. Second, it uses self-reports from each partner, including their education and temporal distance from parents, as well as aspects of their history, including childbearing, number of siblings and experience of divorce as a child. Third, it uses a model that provides a parsimonious parameterisation of the impacts of each partner's education, which allows a simple test of the relative influence of the two partner's education levels on proximity to their parents.

## 2 Data

We analyse data on married or cohabiting couples interviewed in a new household panel survey from the UK called Understanding Society. In this nationally representative survey, all individuals aged 16 or over in the sampled households are interviewed annually. Individuals leaving their households are followed, and all adult members of the new households are also interviewed. The data collection of each wave, using computer assisted personal interviewing (CAPI), lasts 24 months, such that the first wave of data collection started in January 2009 and finished in January 2011. At present three waves of data are available. In this paper, we use data from the first wave in which nearly 51,000 individuals were interviewed.<sup>6</sup>

This survey contains many questions that are salient for studying inter-generational proximity. Because all adults in the sampled households are interviewed separately, we have, for each member of the couple, self-reported information about proximity to their own parents. In the present paper we focus on middle-aged heterosexual couples in which both partners have at least one living parent and the woman is aged between 31 and 54 ( $N = 3,816$  couples). We focus on couples in this age range because their parents are

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<sup>6</sup>For further details of the survey, see [www.understandingsociety.ac.uk](http://www.understandingsociety.ac.uk).

Table 1: Distribution of respondents by distance to woman’s parents and man’s parents, full sample and white, UK-born sample (column percentage)

distance to parents	full sample		white UK-born	
	woman’s	man’s	woman’s	man’s
coresidence	0.9	0.9	0.9	0.3
less than 15 minutes	36.7	33.9	41.9	38.9
between 15 and 30 minutes	17.8	16.6	20.7	18.1
between 30 min and 1 hour	9.3	10.9	10.3	12.0
between 1 and 2 hours	9.0	10.6	9.8	11.4
more than 2 hours	14.6	18.0	15.3	18.0
lives/works abroad	11.8	9.1	1.1	1.2
<i>N</i>	3,816		2,506	

Note: All *N*s reported in this paper are weighted.

of the ages (roughly mid-50s and older) in which in-kind help may be required. Moreover, we wish to focus on those who have already completed their transition to adulthood. A significant proportion of younger people in their 20s have not yet left their parental home,<sup>7</sup> and their location decision merits separate treatment in another paper (cf. Løken *et al.*, 2013).

We use data on household composition and information for non-coresident relatives to ascertain whether the respondent has a living mother or father. People 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.’ Among all people aged 31–54, 17 per cent 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. And among those with two living parents, 87 per cent report that their parents 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 does the father, while the opposite holds for the remaining 3 per cent. Where the two parents are not living together *and* are in different proximity categories, we focus on the parent who lives closer to the child.

Table 1 illustrates the proximity data used in the analysis.<sup>8</sup> The first two columns are for the full sample, while the last two columns are for a

<sup>7</sup>Co-residence with parents is not uncommon amongst younger respondents in Understanding Society. For example, Chan and Ermisch (2014) show that about 18% of people aged 25–29 co-reside with their parents compared with 7% for people aged 30–34.

<sup>8</sup>Ethnic minorities are oversampled in Understanding Society. All results presented are weighted to reflect the sampling design and non-response, using the weight variable `a_indinus_xw`.

sub-sample in which both partners are white and UK-born, which excludes about one-third of the couples. In the full sample, a little over half of the respondents live within 30 minutes of travelling time to their parents, but the proportion is higher among white UK-born couples. About one-quarter of the full sample live more than two hours away from their parents, including those living abroad. The proportion is much smaller for the white UK-born sample because it is much less common for their parents to be living abroad.

Table 1 also shows a slight tendency for the couples to live closer to the woman’s parents than the man’s. Indeed, in a crosstabulation of distance to the two sets of parents (using the proximity categories of Table 1, not shown), we find that 33 per cent of the couples in the full sample live closer to the woman’s parents than to the man’s parents, while the opposite is true for 30 per cent of the couples.<sup>9</sup> This pattern contrasts with findings from the Netherlands (Blaauboer *et al.*, 2011) and Norway (Løken *et al.*, 2013), but is qualitatively similar to American findings (Compton and Pollak, 2013).<sup>10</sup>

In our main analyses, we do not work with the detailed proximity data shown in Table 1 because there is considerable interest in whether or not a person lives close enough to parents to see them frequently and to provide and receive help.<sup>11</sup> Thus, we dichotomise the distance categories, contrasting co-resident or within 15 minutes of travelling time (‘near’ parents in short)<sup>12</sup> against travelling time of 15 minutes or more (‘far’ from parents).

Figure 1 illustrates the choices couples can make in this dichotomous

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<sup>9</sup>For the white UK-born sample, the corresponding figures are 35 and 28 per cent respectively.

<sup>10</sup>Comparisons with the American data are inexact because of different age ranges (25 and older in the USA sample cf. 31–54 for the UK sample) and different distant measures (miles in the USA sample cf. travelling time in the UK sample). In the USA data, the median distance to the woman’s mother is 20 miles compared with 25 miles for distance to the man’s mother (Compton and Pollak, 2013, Table 3).

<sup>11</sup>Chan and Ermisch (2014, Figure 1) show that adult children aged 31–54 are much more likely to see their parent daily if they live within 15 minutes of each other (25% cf. 8% for the 15–30 minute distance category). There is a sharp decline in daily and weekly contact as proximity decreases beyond 30 minutes travelling distance. The third (2011–12) wave of Understanding Society indicates that adult children aged 31–54 are much more likely to give some form of regular or frequent in-kind help to their parents if they live within 15 minutes of each other than if they live 15–30 minutes apart: 63% cf. 50%. They are also more likely to receive in-kind help from parents if they live within 15 minutes: 54% cf. 44%.

<sup>12</sup>We acknowledge that co-residence is qualitatively different from living near but in a separate household (Compton and Pollak, 2013), and indeed demonstrate this to be the case with individual data from the same source as used here (Chan and Ermisch, 2014). But co-residence is too rare (less than one per cent of the couples) to be treated as a separate category in our analyses. Compton and Pollak (2013) also find small numbers co-residing in their couples’ sample.

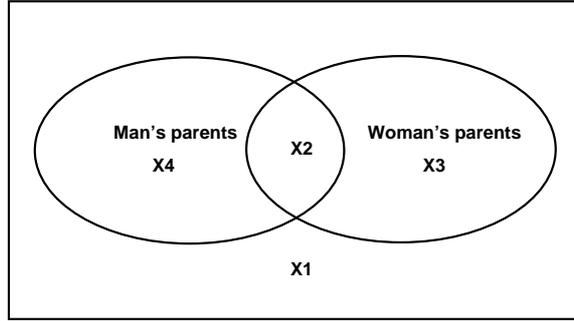


Figure 1: Couple's location relative to man's and woman's parents

framework. The ovals represent locations which are within 15 minutes from parents. A couple could live 'far' from both sets of parents ( $X_1$ ); or 'near' both sets of parents ( $X_2$ ); or 'near' the woman's parents, but 'far' from the man's parents ( $X_3$ ); or 'near' the man's parents but 'far' from the woman's parents ( $X_4$ ).<sup>13</sup> Table 2 reports the joint distribution of proximity to both sets of parents using this 'near-far' framework. It shows a slightly higher proportion of couples in  $X_3$  (living 'near' the woman's parents and 'far' from the man's parents) than in  $X_4$  (the opposite case), with this tendency being more pronounced among couples in which neither partner has a degree and least pronounced when both are university graduates. Also, nearly half of all couples live 'far' from both sets of parents ( $X_1$ ); but the proportion is only one-third for couples in which neither partner has a degree, compared to three-quarters for those couples in which both partners are university graduates. Our aim is to model this joint distribution with a view to understanding how each partner's attributes influence the outcome.

### 3 Hypotheses

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 that, all else being equal, better educated people live farther from their parents. This is a clear

<sup>13</sup>We note that not all choices are available to all couples. For example, if the two sets of parents live very close to each other, then  $X_3$  and  $X_4$  would not be possible.

Table 2: Couple’s proximity to both sets of parents by education (column percentages)

distance to parents	type	all	neither has a degree	at least one has a degree	both have a degree
‘far’ from both sets of parents	$X_1$	46.4	34.3	62.1	74.4
‘near’ both sets of parents	$X_2$	18.1	25.1	9.0	4.1
‘near’ woman’s, ‘far’ from man’s	$X_3$	19.2	22.2	15.2	11.6
‘near’ man’s, ‘far’ from woman’s	$X_4$	16.4	18.4	13.7	10.0
weighted $N$ (100%)		3,811	2,156	1,655	766

Note: ‘Degree’ means BA or higher degree

prediction for educationally homogamous couples.

When the partners’ education levels differ, one partner may have more say on the outcome. For instance, if the man works more hours and contributes more to household income, his education may attract more weight in location decisions. Another possibility is that the impact of each partner’s education is proportional to the earnings return to job search over a wide area corresponding to that education level. In this case, the combined impact of the two partners’ education in proximity decisions may be an average of their education levels, with possibly different weights for men and women. For example, with equal weights, couples in which the partners have a combination of a high and middle level of education will tend to live farther from both sets of parents than couples with a high and low level of education. Such an outcome would indicate the importance of labour market influences in proximity decisions.

Different educational levels may also affect bargaining power. Of course, we know little about people’s preferences for proximity to parents. These preferences may differ by gender (e.g. women may favour being near parents more than men). But if people generally prefer to live near their own parents, bargaining based on relative education levels would produce countervailing effects to the labour market influences discussed in the previous two paragraphs. For example, in cases where the woman is better educated than the man, a higher proportion of the couples would live closer to her parents than to his, compared to cases in which the same education differential favours the man. In other words, there might be an asymmetry in relative proximity to the two sets of parents, depending on which partner is better educated.

A more specific bargaining-oriented indicator is the share of the woman’s income in the couple’s joint income, which averages 39 per cent in our data.

For given partners' education levels, women earning a larger share of the joint income may be expected to live closer to her own parents.<sup>14</sup>

A different argument for educationally heterogamous couples arises from pre-partnership migration. Suppose for exposition purposes that single people move away from the area in which they grew up if and only if they obtain a degree.<sup>15</sup> If this is the case, then partnerships formed between a university graduate and a non-graduate will be in the local area of the latter, who has higher moving costs because of local ties, including parents. As a consequence, such couples tend to live closer to the parents of the less well educated partner. This line of reasoning also predicts an asymmetry in relative proximity to the two sets of parents. But contrary to the bargaining power argument, it suggests that the couple will live closer to the parents of the less educated partner.

Some circumstances other than the partners' education and relative resources, such as the presence of children, may also influence relative proximity to parents. For example, daughters' stronger family ties may encourage couples with children to live closer to her parents. We investigate such influences using the rich data on household characteristics and some aspects of each partner's history, such as whether they have siblings and whether they experienced parental separation as a child.

## 4 Results

In the analyses below, we first explore proximity to woman's parents and man's parents separately (in each case using the 'near-far' dichotomy). Then we will repeat the analysis using the joint distribution of distance to both sets of parents (i.e.  $X_1, \dots, X_4$  in Figure 1) as the dependent variable.

We distinguish three levels of education: high (BA or higher degree), intermediate (A-levels or further education below BA level), and low (GCSE

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<sup>14</sup>A higher woman's share could also be interpreted as an indicator of higher labour market aspirations, which would encourage geographic mobility, and so locations farther from her parents. We recognise that woman's share of household income may be an endogenous variable, as it depends, in part, on location. The results are not affected by its exclusion from the models below.

<sup>15</sup>Using data from the 18 annual waves of the British Household Panel Survey, it can be shown that among movers under the age of 30, the mean distance moved is 65 km for persons with a university degree, 44 km for persons with an intermediate level of education (described further below) and 21 km for those with lower level qualifications. If these young movers are also single, the distances for the three education groups are 70 km, 52 km and 22 km respectively. Details are available from the authors on request. See Ermisch (2009) who shows that young people from richer homes move farther from their parents when they leave, particularly when they are single.

Table 3: Joint distribution of partners' education (cell percentages)

woman's education	man's education			col %
	high	intermediate	low	
high (degree)	20.3	7.7	5.1	33.1
intermediate (A-levels)	6.9	13.4	12.1	32.4
low (GCSE or lower)	3.6	11.4	19.7	34.6
row %	30.8	32.4	36.8	100.0

weighted data,  $N = 3,811$ .

or lower).<sup>16</sup> Table 3 shows that each of the three education levels accounts for roughly one third of men and women, with women being slightly better educated than men. Moreover, just over half (53 per cent) of the couples are educationally homogamous (i.e. found in cells on the main diagonal); and there are slightly more couples in which the woman is better educated than the man (25 per cent, found in cells above the main diagonal) than the other way around (22 per cent, below the main diagonal).

Table 4 reports, for each combination of the partners' education, the proportion of couples living 'far' from the woman's parents, those living 'far' from the man's parents, and also the joint distribution of distance to both sets of parents. Of particular interest are the three pairs of situations in which the partners' education levels differ. In every case where the woman is better educated than the man, the couple is more likely to live 'far' from her parents (see the column labelled 'woman's parents') compared with situations in which the education differential is reversed. Similarly, if the man is better educated than the woman, the couple is more likely to live 'far' from his parents (see the column labelled 'man's parents'). Turning to the joint distribution of distance to both sets of parents, in situations where the woman is better educated than the man, the couple is less likely to live 'near' her parents and 'far' from his parents than if the education differential is reversed (see the column labelled ' $X_3$ '). Indeed, in two of the three cases, the couple is actually more likely to live 'far' from her parents and 'near' his parents (see the column labelled ' $X_4$ ').<sup>17</sup> These differences, though very small in

<sup>16</sup>In England, Wales and Northern Ireland, GCSE is the 'school-leaving' qualifications, typically gained by pupils at age 16; A-levels, typically gained at age 18, is the qualification for university matriculation. Scotland has its own qualifications system, which has been converted to its equivalents for the rest of the UK in this analysis.

<sup>17</sup>In contrast to what we find here, in the National Survey of Families and Households data, Compton and Pollak (2013, Table 5) find that when the woman has a degree and the man does not, the percentage of couples who live 'near' her mother is 5.8 percentage points higher compared to couples in which the education differential is reversed (in their data

Table 4: Proportion of couples living far from woman’s and man’s parents and joint distribution of travelling distance to both sets of parents by partner’s education

woman’s education	man’s education	woman’s parents	man’s parents	$X_1$	$X_2$	$X_3$	$X_4$
high	high	0.843	0.859	0.744	0.041	0.116	0.100
high	intermediate	0.716	0.686	0.518	0.116	0.168	0.197
high	low	0.648	0.690	0.526	0.189	0.163	0.121
intermediate	high	0.692	0.721	0.525	0.112	0.197	0.167
intermediate	intermediate	0.576	0.640	0.412	0.195	0.229	0.165
intermediate	low	0.544	0.527	0.317	0.246	0.210	0.227
low	high	0.644	0.691	0.465	0.130	0.226	0.178
low	intermediate	0.489	0.562	0.322	0.271	0.240	0.167
low	low	0.504	0.538	0.323	0.281	0.214	0.181

Note:  $X_1$ , far from both sets of parents;  $X_2$ , near both sets of parents;  $X_3$ , near woman’s parents and far from man’s parents;  $X_4$ , near man’s parents and far from woman’s parents, weighted data,  $N = 3,811$

most cases, cast doubt on the importance of bargaining power effects working through relative education levels. Instead, they lend preliminary support to the pre-partnership migration argument.

#### 4.1 Diagonal reference models

Our goal is to find a parsimonious model to summarise the data in Table 4. But before we turn to formal modelling, we note that, as shown in Table 1, about one-third of our full sample have at least one partner who is either foreign born or non-white. Among this group, 44 per cent of the couples have at least one partner whose parent is living abroad. For them, the choice of distance to parents is severely constrained. It is also possible that there are ethnic differences in the relative influence of partners’ education and in education group means, which may affect our estimates.<sup>18</sup> Thus, in the formal modelling below, we restrict our analysis to a sample of 2,506 couples

we define ‘near’ as the mother living within 30 miles). In the UK data, the corresponding difference is -5.6 percentage points for the 15 minute near-far threshold and 0.3 percentage points for a 30 minute near far threshold.

<sup>18</sup>Chan and Ermisch (2014) show very large differences between ethnic groups in inter-generational proximity, even after controlling for education and other covariates.

in which both partners are white and UK-born.<sup>19</sup>

A class of models that could account for the patterns of Table 4 is the ‘diagonal reference model’ (Sobel, 1981, 1985; Clifford and Heath, 1993). With a binary outcome variable, it can be represented as follows:

$$\log\left(\frac{\pi_{rc}}{1 - \pi_{rc}}\right) = w \log\left(\frac{\pi_{rr}}{1 - \pi_{rr}}\right) + (1 - w) \log\left(\frac{\pi_{cc}}{1 - \pi_{cc}}\right), \quad (1)$$

where  $\pi_{rc}$  is the probability of a couple, in which the woman has education level  $r$  and the man has education level  $c$ , living ‘far’ from the parents (his or hers, as appropriate);  $\pi_{rr}$  and  $\pi_{cc}$  are the probabilities of educationally homogamous couples, at levels  $r$  and  $c$  respectively, living ‘far’ from the parents; and  $w$  and  $1 - w$  are the weights of the woman’s and the man’s education in determining intergenerational proximity, with  $0 \leq w \leq 1$ .<sup>20</sup> In other words, the logit of educationally heterogamous couples living ‘far’ from the parents is constrained to be a weighted average of the logits of the relevant homogamous couples. The intuition here is that homogamous couples are ‘pure types’, and they serve as reference points for those couples in which the partners have different levels of education.<sup>21</sup> We estimate and report  $w$  and  $\log(\pi_{kk}/(1 - \pi_{kk}))$ ,  $k = 1, 2, 3$  below, where  $k = 1$  is degree level and  $k = 3$  is the lowest education category.

The top and middle panels of Table 5 shows that model 1 actually fits the data very well.<sup>22</sup> Under this model, the weight parameter is estimated to be  $w = .52$  (*s.e.* = .06) if proximity to the woman’s parents is the dependent variable, and  $w = .46$  (*s.e.* = .07) if proximity to the man’s parents is the dependent variable. Because the 95 per cent confidence interval of  $w$  comfortably contains the value of .5 in both cases, these results suggest that

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<sup>19</sup>If UK-born ‘non-whites’ were included in the analysis,  $N$  will increase from 2,506 to 2,803. The main results of this paper are not affected by whether non-whites are included in the sample or not. Details are available from the authors on request.

<sup>20</sup>Generically, the model can be expressed in terms of a latent continuous variable. Let  $y_{jrc}$  represent the latent travelling distance to parents for a partner in couple  $j$ . We assume that  $y_{jrc} = w \delta_{rr} + (1 - w) \delta_{cc} + e_j$ . An assumption about the distribution of  $e_j$  is needed, such as logistic or standard normal. With the logistic assumption and the near-far dichotomy,  $\pi_{rc}$  is the probability that  $y_{jrc} > 0$ ,  $\pi_{rc} = \exp(w \delta_{rr} + (1 - w) \delta_{cc}) / [1 + \exp(w \delta_{rr} + (1 - w) \delta_{cc})]$ , which implies that  $\log(\pi_{rc}/(1 - \pi_{rc})) = w \delta_{rr} + (1 - w) \delta_{cc}$ . Thus the parameters  $\delta_{kk} = \log(\pi_{kk}/(1 - \pi_{kk}))$ ,  $k = 1, 2, 3$ ; that is, they are the logits ‘along the diagonal’. The latent variable formulation extends easily to ordered logits or probits when there are more distance categories

<sup>21</sup>We fit diagonal reference models with the R package ‘gnm’ (Turner and Firth, 2011). We have also used Stata to fit the same set of models using probit rather than the logit link function. The results we obtained are very similar to those reported here.

<sup>22</sup>There are nine parameters in the unconstrained model, one for each  $\log(\pi_{rc}/(1 - \log \pi_{rc}))$ , compared with four parameters in the diagonal reference model.

Table 5: Goodness of fit statistics of diagonal reference models with distance to woman's parents (top panel), distance to man's parents (middle panel) and distance to both sets of parents (bottom panel) as dependent variables

model	$G^2$	$df$	$p$		$w$	$s.e.$	$w'$	$s.e.$
woman's parents								
1	5.980	5	.308		.524	(.063)		
2	6.120	6	.410		.500			
3	3.492	4	.479		.407	(.094)	.660	(.101)
man's parents								
1	5.523	5	.355		.462	(.070)		
2	5.810	6	.445		.500			
3	2.576	4	.631		.323	(.102)	.628	(.114)
both sets of parents								
1'	18.793	15	.223	$X_1$	.512	(.052)		
				$X_3$	.722	(.136)		
				$X_4$	.571	(.128)		
2'	22.376	18	.216	$X_1$	.500			
				$X_3$	.500			
				$X_4$	.500			
3'	14.671	12	.260	$X_1$	.371	(.076)	.629	(.083)
				$X_3$	.169	(.203)	.438	(.213)
				$X_4$	.312	(.184)	.584	(.203)

Note:  $G^2$  is the likelihood ratio chi-squared statistics;  $p$  is the probability that the deviance ( $G^2$ ) between the observed data and the predicted values is due to chance, given the degrees of freedom of the relevant model.

the two partners have equal influence in location decisions. We can test this idea formally by fitting a second model that is equivalent to model 1 except for the constraint that  $w = .5$ . As Table 5 shows, the difference in fit between models 1 and 2 is very small and not statistically significant. Thus, the hypothesis of equal influence cannot be rejected.

$$\log\left(\frac{\pi_{rc}}{1 - \pi_{rc}}\right) = w \log\left(\frac{\pi_{rr}}{1 - \pi_{rr}}\right) + (1 - w) \log\left(\frac{\pi_{cc}}{1 - \pi_{cc}}\right), \quad w = .5. \quad (2)$$

To test the bargaining power argument and pre-partnership migration argument, we also test a third model which allows the weight parameter,  $w$ , to vary according to which partner is better educated.

$$\begin{aligned} \log\left(\frac{\pi_{rc}}{1 - \pi_{rc}}\right) &= (w + \delta) \log\left(\frac{\pi_{rr}}{1 - \pi_{rr}}\right) \\ &+ (1 - (w + \delta)) \log\left(\frac{\pi_{cc}}{1 - \pi_{cc}}\right), \end{aligned} \quad (3)$$

where  $\delta = 0$  if  $r < c$  (i.e. if the woman is better educated than the man). In effect, Model 3 returns two estimates of the weight parameter: one for couples in which the woman is better educated ( $w$ ), and the other for the rest of the sample ( $w' = w + \delta$ ). If model 3 significantly improves on model 1, the two groups of women would have different influence in location decisions. Furthermore, recall that the bargaining power argument suggests that couples tend to live closer to the parents of the better educated partner, while the pre-partnership migration argument suggests the opposite. Given our coding, this means that, if the bargaining power argument holds,  $w < w'$  in the model predicting distance to the woman's parents, and  $w > w'$  in the model predicting distance to the man's parents. The pre-partnership migration argument gives the opposite predictions about the relative size of  $w$  and  $w'$ .

It turns out that in the model predicting the log-odds of living far from the woman's parents (top panel),  $w = .41$ , (*s.e.* = .09) and  $w' = .66$ , (*s.e.* = .10), which is consistent with the bargaining power argument. However, in the model predicting the log-odds of living far from the man's parents (middle panel),  $w = .32$ , (*s.e.* = .10) and  $w' = .63$ , (*s.e.* = .11), which supports the pre-partnership migration argument. But note that the confidence intervals of  $w$  and  $w'$  still straddle .5 in all cases. Moreover, compared to model 1, the deviance of model 3 is reduced by 2.49 for distance to woman's parents (top panel), and 2.95 for distance to man's parents (middle panel). These are not statistically significant improvements for 1 degree of freedom ( $p = .11$  and  $p = .09$  respectively). So there is no clear support for either the bargaining

power argument or the pre-partnership migration argument. Overall, we prefer model 1 to model 3, and model 2 to model 1.

Our preferred model 2 has strictly equal weights for men and women. Thus, contrary to the findings of Blaauboer *et al.* (2011) for the Netherlands, Løken *et al.* (2013) for Norway or Compton and Pollak (2013) for the USA, we do not find that men’s education has a larger impact on relative proximity to parents. Instead, our result is consistent with the idea that the impact of each partner’s education is proportional to the earnings return to wide geographic job search for that level of education, and that the combined impact of the two partners’ education is a simple average of the impacts of the two education levels. These results point to the importance of labour market considerations in location choice, and the absence of bargaining or pre-partnership migration effects based on relative education levels.

The top panel of Table 6 reports the estimates, under model 2, of the log-odds of educationally homogamous couples with high, intermediate or low level of education living ‘far’ from the parents. They imply that across the three education categories the predicted probability of homogamous couples living ‘far’ from the woman’s parents are 0.44 (low), 0.53 (intermediate) and 0.79 (high) respectively. The corresponding figures for being ‘far’ from the man’s parents are 0.48, 0.58 and 0.80. Thus, the probability of being ‘far’ from parents is slightly higher if the couple has intermediate rather than low level of education. But there is a big jump if both partners have a degree, ‘power couples’ in the terminology of Compton and Pollak (2013) and Costa and Kahn (2000).

## 4.2 The influence of other factors on proximity

To examine the influence of other factors on intergenerational proximity, we add covariates to our preferred model 2 (Sobel *et al.*, 2004). In model 4,  $\mathbf{x}$  is a vector of covariates and  $\boldsymbol{\beta}$  the corresponding vector of parameters.

$$\begin{aligned} \log \left( \frac{\pi_{rc}}{1 - \pi_{rc}} \right) &= w \log \left( \frac{\pi_{rr}}{1 - \pi_{rr}} \right) \\ &+ (1 - w) \log \left( \frac{\pi_{cc}}{1 - \pi_{cc}} \right) + \mathbf{x}'\boldsymbol{\beta}, \quad w = .5. \end{aligned} \quad (4)$$

In earlier individual-based analysis, Chan and Ermisch (2014) found that the following variables are associated with proximity to parents among individuals aged 31–54: whether they have siblings, whether they experienced parental divorce by age 16, whether they have a child or children,<sup>23</sup> housing

<sup>23</sup>We use the woman’s report of their parental status.

tenure and whether they moved in the past 5 years.<sup>24</sup> Thus, in model 4 we include these attributes in  $\mathbf{x}$ . In addition, we include the woman’s age, the age difference between the partners, the age difference between the parent and the child for both partners, and the woman’s share of the couple’s joint income. We also include indicator variables for living in London, in the South East of England, and in a rural area. Descriptive statistics for these variables are shown in Table 9 in the Appendix.

The parameter estimates of model 4 are shown in the bottom panel of Table 6.<sup>25</sup> The differences in the estimates of the diagonal reference terms across education levels under model 4, as they are net of the covariates, are very similar to those of model 2. For example, in the left-hand column, the difference in the log-odds for couples with high and intermediate levels of education are 1.25 under model 2 and 1.28 under model 4. In other words, the odds ratios implied by the diagonal reference parameters do not change much when covariates are added.

As regards the covariates, middle-aged couples can benefit from help from grandparents in childcare if they live nearby, and the grandparents may have a strong interest in seeing their grandchildren often. Consistent with this argument, Table 6 shows that having a child reduces the probability of living ‘far’ from the woman’s parents. But there is no association between this variable and the distance to the man’s parents. This finding is broadly in line with Blaauboer *et al.* (2011) for the Netherlands, and might suggest that maternal grandparents are more involved in grandparenting.

When parents divorce or separate, at least one of them moves from the parental home, and re-partnering may also strain relations with the children from the first marriage. Consistent with this view, we find that men who experienced parental separation or divorce as a child are more likely to live ‘far’ from their parents. The corresponding parameter for women, although of similar magnitude, is not statistically significant from zero ( $p = .11$ ). But it should also be noted that the estimate of the impact of parental divorce for women is not significantly different from that for men. The same holds for many of the covariates discussed below. So the gender differences reported in this section should be interpreted with caution.

With empirical support from a large number of countries, Rainer and

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<sup>24</sup>This variable refers to whether either of the partners moved in the past 5 years.

<sup>25</sup>We cannot reject the parameter restrictions in model 4 relative to model 1 plus covariates, or model 3 plus covariates. Details are available from the authors on request. In a bivariate probit model that allows the residual error terms in the two partners’ distance-to-parent equation to be correlated, the results are similar. The correlation between the errors is estimated to be .25. The conclusions are also similar when we estimate ordered probit and logit models using all seven categories of Table 1.

Table 6: Parameter estimates for diagonal reference model with equal weights without covariates (top panel) and with covariates (bottom panel)

	woman's		man's	
	$\beta$	<i>s.e.</i>	$\beta$	<i>s.e.</i>
model 2: DRM without covariates ( $N = 2,506$ )				
high ( $\log \pi_{11}/(1 - \pi_{11})$ )	1.349**	0.103	1.387**	0.104
intermediate ( $\log \pi_{22}/(1 - \pi_{22})$ )	0.104	0.084	0.335**	0.085
low ( $\log \pi_{33}/(1 - \pi_{33})$ )	-0.228**	0.076	-0.069	0.075
model 4: DRM with covariates ( $N = 2,132$ )				
high ( $\log \pi_{11}/(1 - \pi_{11})$ )	0.106	0.536	0.162	0.464
intermediate ( $\log \pi_{22}/(1 - \pi_{22})$ )	-1.175**	0.531	-0.933**	0.459
low ( $\log \pi_{33}/(1 - \pi_{33})$ )	-1.512**	0.535	-1.362**	0.463
has child	-0.523**	0.147	-0.067	0.124
woman: parental divorce	0.219	0.137	-0.122	0.117
man: parental divorce	-0.126	0.135	0.280*	0.119
woman: only child	-0.182	0.165	-0.123	0.142
man: only child	-0.010	0.172	-0.373*	0.148
woman: age diff with parent	0.007	0.009	0.005	0.008
man: age diff with parent	0.008	0.009	-0.019*	0.008
woman: age	0.023**	0.008	0.033**	0.007
age difference with man	-0.009	0.010	-0.004	0.009
move in past 5 years	0.205	0.110	0.476**	0.096
social tenant	0.284	0.166	0.095	0.146
private tenant	0.531**	0.203	0.021	0.170
rural	0.468**	0.112	0.520**	0.099
London	0.847**	0.218	0.749**	0.190
South East	0.547**	0.134	0.438**	0.116
income share	-0.021	0.212	-0.134	0.184

Note: \*  $p < .05$ , \*\*  $p < .01$ , two-tailed test. The diagonal reference parameters of the top and bottom panels are not directly comparable as those of the bottom panel are conditional on the covariates.

Siedler (2009, 2012) argue that children with sibling(s) are more likely to live farther from their parents than only-children. Also, van der Pers and Mulder (2012) find that parents of an only-child are more likely to live near that child than those of two or more children to have a child living nearby. In our analysis, men without siblings (i.e. only-child) are less likely to live ‘far’ from their parents, similar to Løken *et al.* (2013). Again, the corresponding parameter for women is of the expected sign but not statistically significant.

These associations between family characteristics and distance to parents suggest that in certain circumstances the location preferences of one of the partners are given more weight. For instance, the fact that the man being an only-child shifts location toward his parents suggests that his preferences dominate in this situation, while the presence of children favours location nearer to the woman’s parents.

The impact of geographic mobility accumulates over time. Thus, we expect that the distance between parent and child to increase with age (Rogerson *et al.*, 1993). This is indeed what we see. Controlling for the partners’ age difference, older children live farther from their parents, as also found by Blaauboer *et al.* (2011) and Compton and Pollak (2013). Also, men with older parents live closer to their parents, but this is not true for women.

A couple’s underlying propensity to move is likely to be positively correlated with their recent history of residential change. Indeed, we find that couples who have moved in the past five years are more likely to live ‘far’ from their parents, which is consistent with the view that mobility tends to move the generations farther apart.<sup>26</sup>

Compared with homeowners, private sector renters are more likely to live ‘far’ from the woman’s parents. The same is true of tenants in social housing. But the parameter of the latter is marginally insignificant ( $p = .09$ ). Possibly reflecting the fact that there are more inter-regional migrants in London and the South East of England, couples living in the urban parts of these areas tend to live farther from their parents. The same holds for couples living in rural areas, compared with those living in cities. Exclusion of these region variables has little impact on the other parameter estimates.

Finally, the woman’s share of the couple’s joint income does not predict proximity to either set of parents. This is consistent with the finding of equal weights for the two partners’ education in the diagonal reference model. Together, they suggest that the location choice of couples is only mildly associated with gender, favouring women, and that there is little bargaining based on the partners’ relative income or education levels.

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<sup>26</sup>Regarding distance to woman’s parents, the parameter of ‘move in the past 5 years’ is marginally not significant with  $p = .06$ .

### 4.3 Joint distribution of distance to two sets of parents

As couples might consider distance to both sets of parents simultaneously, we repeat our analyses using their joint distribution (i.e.  $X_1, \dots, X_4$ ) as the dependent variable. The diagonal reference models that we fit here are very similar to those of section 4.1. However, because there are now four outcome categories, these models have a multinomial logit structure. Using  $X_2$  (i.e. being ‘near’ both sets of parents) as the reference category, the counterparts of models 1 to 3 can be represented as follows:

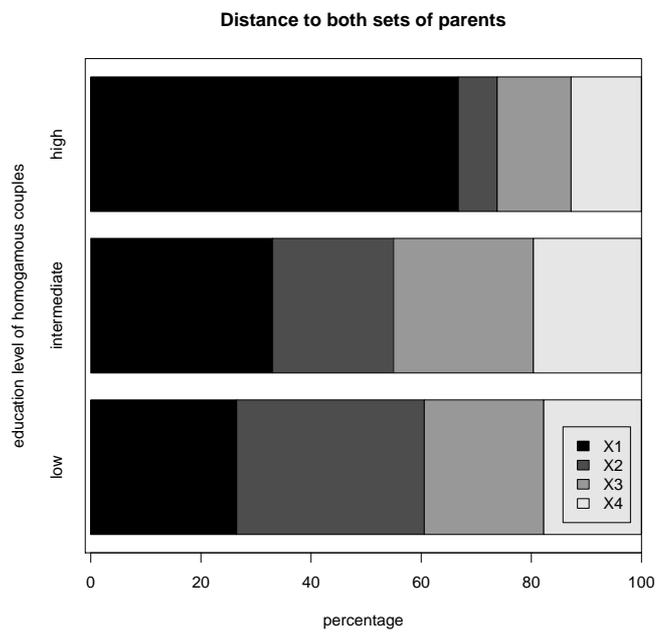
$$\log \left( \frac{\pi_{rc}^{X_i}}{\pi_{rr}^{X_2}} \right) = w_i \log \left( \frac{\pi_{rr}^{X_i}}{\pi_{rr}^{X_2}} \right) + (1 - w_i) \log \left( \frac{\pi_{cc}^{X_i}}{\pi_{cc}^{X_2}} \right), \quad (1')$$

$$\log \left( \frac{\pi_{rc}^{X_i}}{\pi_{rr}^{X_2}} \right) = w_i \log \left( \frac{\pi_{rr}^{X_i}}{\pi_{rr}^{X_2}} \right) + (1 - w_i) \log \left( \frac{\pi_{cc}^{X_i}}{\pi_{cc}^{X_2}} \right), \quad w_i = .5, \quad (2')$$

$$\log \left( \frac{\pi_{rc}^{X_i}}{\pi_{rr}^{X_2}} \right) = (w_i + \delta_i) \log \left( \frac{\pi_{rr}^{X_i}}{\pi_{rr}^{X_2}} \right) + ((1 - (w_i + \delta_i)) \log \left( \frac{\pi_{cc}^{X_i}}{\pi_{cc}^{X_2}} \right), \quad (3')$$

where  $i = 1, 3, 4$  and  $\delta_i = 0$  if  $r < c$ . Note that we allow the weight parameter,  $w_i$ , the asymmetry parameter,  $\delta_i$ , and the education reference parameters to vary by  $i$ . The bottom panel of Table 5 shows that, as before, the baseline model 1' actually fits the data well. Also as before, the fit of model 2' is not worse than that of model 1' ( $\Delta G^2 = 3.583$  for  $\Delta df = 3$  is not statistically significant,  $p = .31$ ); and model 3' does not improve on model 1' ( $\Delta G^2 = 4.122$  for  $\Delta df = 3$  is not statistically significant either,  $p = .25$ ). In short, these results are very similar to those of section 4.1. Whether the distance to the two sets of parents are analysed separately or jointly, a simple diagonal reference model with strictly equal weights is our preferred model.

The top panel of Table 7 reports the education reference parameters (i.e. the log-odds) under model 2'. Note that the magnitude of these parameters are substantially larger for the  $X_1$  v  $X_2$  contrast than for the other two contrasts. This suggests that couples with higher levels of education tend to live ‘far’ from both sets of parents. Figure 2 shows the predicted probabilities of all four  $X$ s under model 2' for educationally homogamous couples. Two opposite trends are notable here. First, the proportion of couples living ‘far’ from both sets of parents ( $X_1$ ) increases monotonically with education: from 27 (low) to 33 (intermediate) and then 67 per cent (high). Second, the share of couples living ‘near’ both sets of parents ( $X_2$ ) declines monotonically with education: from 34 (low) to 22 (intermediate) to 7 per cent (high). Put differently, living ‘near’ both sets of parents ( $X_2$ ) is the modal outcome for couples with GCSE or lower qualifications, while living ‘far’ from both sets of parents ( $X_1$ ) is the most likely outcome for couples with intermediate or, especially, high level of education.



Note:  $X_1$ , far from both sets of parents;  $X_2$ , near both sets of parents;  $X_3$ , near woman's parents and far from man's parents;  $X_4$ , near man's parents and far from woman's parents.

Figure 2: Distribution of distance to both sets of parents for educationally homogamous couples under model 2'

$$\log\left(\frac{\pi_{rc}^{X_i}}{\pi_{rc}^{X_2}}\right) = w_i \log\left(\frac{\pi_{rr}^{X_i}}{\pi_{rr}^{X_2}}\right) + (1 - w_i) \log\left(\frac{\pi_{cc}^{X_i}}{\pi_{cc}^{X_2}}\right) + \mathbf{x}'\boldsymbol{\beta}^{X_i}, \quad w_i = .5, \quad (4')$$

In model 4', we add covariates to model 2'. The results are reported in the bottom panel of Table 7. As in Table 6, the differences in the diagonal reference terms between the three education levels are very similar for the top and bottom panels. Regarding the covariates, it is striking that all of the statistically significant parameters pertain to the  $X_1$  v  $X_2$  contrast.<sup>27</sup> Couples with children are less likely to live 'far' from both sets of parents. But older couples, those who have moved in the past five years, and those living in rural areas, London or the South East of England are more likely to live 'far' from both sets of parents. These results are very similar to those reported in Table 6.

To illustrate the substantive magnitude of these associations, we report in Table 8 the predicted probabilities of  $X_1, \dots, X_4$  given specific covariate values. Our baseline is a couple in which both partners are university graduates, and the woman contributes 40 per cent of their joint income. She is 40 years old and he is 43, and their parents are 70 and 73 years old respectively. They both have siblings, but they have no children of their own. Neither of them experienced parental divorce before the age of 16. Finally, they are homeowners in an urban area outside London and the South East of England, and they have not moved in the past five years.

Under this baseline scenario, the most likely outcome is for this couple to live 'far' from both sets of parents ( $X_1$ , prob=.60). Indeed, the probability of them living 'near' both sets of parents,  $X_2$ , is only 8 per cent. However, if this couple have children of their own, while other covariates are kept unchanged (scenario 2), then they would be a little more likely to live 'near' both sets of parents (prob= .11 rather than prob= .08) or 'near' the woman's parents and 'far' from the man's parents (prob= .18 rather than prob= .11); and somewhat less likely to live 'far' from both sets of parents (prob= .52 rather than prob= .60). But note that  $X_1$  is still, by some distance, the most likely outcome.

Furthermore, the difference that children make is small relative to that which is due to the couple's own education. Thus, if the childless couple have GCSE or lower qualifications rather than university degrees (scenario

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<sup>27</sup>For the  $X_3$  v  $X_2$  contrast, the following parameters are significant at the 10 per cent level: woman experiencing parental divorce as a child ( $p = .10$ ), woman's age ( $p = .07$ ) and having moved in the past 5 years ( $p = .05$ ). The same applies to the following parameters for the  $X_4$  v  $X_2$  contrast: having a child ( $p = .06$ ), man experiencing parental divorce ( $p = .06$ ), and man's age difference with his parents ( $p = .09$ ).

Table 7: Parameter estimate for diagonal reference model with equal weights with distance to both sets of parents as dependent variable without covariates (top panel) and with covariates (bottom panel)

education level*	$X_1$ v $X_2$		$X_3$ v $X_2$		$X_4$ v $X_2$	
	$\beta$	<i>s.e</i>	$\beta$	<i>s.e</i>	$\beta$	<i>s.e</i>
model 2': DRM without covariates ( $N = 2, 506$ )						
high ( $\log \pi_{11}^{X_i} / \pi_{11}^{X_2}$ )	2.246**	0.157	0.642**	0.184	0.593**	0.187
intermediate ( $\log \pi_{22}^{X_i} / \pi_{22}^{X_2}$ )	0.409**	0.114	0.146	0.122	-0.111	0.130
low ( $\log \pi_{33}^{X_i} / \pi_{33}^{X_2}$ )	-0.251*	0.098	-0.451**	0.105	-0.652**	0.112
model 4': DRM with covariates ( $N = 2, 132$ )						
high ( $\log \pi_{11}^{X_i} / \pi_{11}^{X_2}$ )	0.253	0.714	0.167	0.789	0.061	0.807
intermediate ( $\log \pi_{22}^{X_i} / \pi_{22}^{X_2}$ )	-1.677*	0.707	-0.344	0.774	-0.645	0.795
low ( $\log \pi_{33}^{X_i} / \pi_{33}^{X_2}$ )	-2.360**	0.713	-0.908	0.779	-1.120	0.800
has child	-0.480*	0.197	0.136	0.235	-0.412	0.220
woman: parental divorce	0.075	0.177	-0.342	0.205	0.059	0.200
man: parental divorce	0.110	0.176	0.124	0.190	-0.416	0.222
woman: only child	-0.257	0.216	-0.097	0.234	-0.172	0.245
man: only child	-0.325	0.229	-0.246	0.254	0.178	0.240
woman: age diff with parent	0.007	0.012	-0.017	0.013	-0.016	0.014
man: age diff with parent	-0.008	0.012	-0.011	0.013	0.023	0.013
woman: age	0.047**	0.011	0.022	0.012	0.012	0.012
age difference with man	-0.006	0.013	0.014	0.015	0.006	0.015
move in past 5 years	0.533**	0.147	0.313	0.162	0.008	0.172
social tenant	0.347	0.213	-0.162	0.240	0.007	0.251
private tenant	0.461.	0.268	-0.179	0.325	0.428	0.305
rural	0.756**	0.150	0.090	0.171	0.006	0.181
London	1.131**	0.284	-0.123	0.363	-0.145	0.375
South East	0.769**	0.179	0.063	0.210	0.176	0.214
income share	-0.081	0.284	0.289	0.311	0.438	0.321

Note: \*  $p < .05$ , \*\*  $p < .01$ , two-tailed test;  $X_1$ , far from both sets of parents;  $X_2$ , near both sets of parents;  $X_3$ , near woman's parents and far from man's parents;  $X_4$ , near man's parents and far from woman's parents. The diagonal reference parameters of the top and bottom panels are not directly comparable as those of the bottom panel are conditional on the covariates.

Table 8: Predicted probabilities of distance to both sets of parents under model 4'

scenario	$X_1$	$X_2$	$X_3$	$X_4$
1 baseline	0.604	0.078	0.113	0.203
2 baseline, but with child(ren)	0.521	0.109	0.181	0.188
3 baseline, but GCSE	0.197	0.349	0.172	0.279
4 baseline, but GCSE with child(ren)	0.143	0.408	0.231	0.216
5 baseline, but live in rural areas	0.759	0.046	0.073	0.121
6 baseline, but live in London	0.840	0.035	0.044	0.079
7 baseline, but live in South East	0.746	0.044	0.069	0.139
8 baseline, but moved in past 5 years	0.701	0.053	0.105	0.139

Note:  $X_1$ , far from both sets of parents;  $X_2$ , near both sets of parents;  $X_3$ , near woman's parents and far from man's parents;  $X_4$ , near man's parents and far from woman's parents.

3), then the probability of them living 'far' from both sets of parents would drop from 60 per cent to 20 per cent, while that of living 'near' both sets of parents would rise from 8 per cent to 35 per cent. A similarly large education contrast for couples with children can be seen between scenarios 2 and 4.

Finally, we have computed the predicted probabilities of couples living in different areas or with different mobility history, and report them in scenarios 5–8. Compared with the baseline scenario 1, the differences in the predicted probabilities are in the expected direction and their magnitudes are non-trivial. But these differences are still smaller than those due to the couple's education levels.

## 5 Conclusions

To sum up, we find a slight tendency for couples to live closer to the woman's parents than the man's. This tendency is more pronounced among couples in which neither partner has a degree and in which there is a child. In other respects, proximity to parents is gender neutral.

Educational attainment has a large influence on geographic mobility and in consequence on intergenerational proximity, with better educated couples tending to live farther from their parents. We find that each partner's education level contributes equally to the proximity outcome. Our results are consistent with the idea that the impact of each partner's education is proportional to the earnings return to wide geographic job search for that level

of education, and that the combined impact of the two partners' education is a simple average of the impacts of the two education levels. There is no additional influence according to who has the higher qualification; i.e. no bargaining power or pre-partnership migration effect associated with relative education levels. Similarly, the partners' income share does not affect proximity to parents.

Some circumstances related to family history and childbearing do, however, shift location closer to one set of parents or the other. In particular, the presence of children favours location closer to the woman's parent. We conclude that proximity to parents is primarily driven by factors that affect mobility over long distances, which are mainly those associated with the labour market.

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## A Online appendix: Descriptive statistics

Table A.1: Descriptive statistics (white, UK-born couples)

covariates	mean	<i>s.d.</i>
has child	0.861	
woman: parental divorce	0.149	
man: parental divorce	0.143	
woman: only child	0.092	
man: only child	0.086	
woman: age diff with parent	26.740	5.263
man: age diff with parent	26.694	5.282
woman: age	42.410	6.183
age difference with man	-1.626	4.742
move in past 5 years	0.360	
social tenant	0.098	
private tenant	0.074	
rural	0.242	
London	0.070	
South East	0.150	
income share	0.389	0.227