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Migration for co-residence among long-distance couples: The role of local family ties and gender

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Abstract

When long-distance couples start living together, the decision about where to co-reside has important repercussions, as long-distance moves often lead to the loss of local ties. Drawing on Danish population register data on long-distance opposite-sex couples and cross-classified multi-level statistical analyses, we explore each partner's share in the total distance moved at the start of their co-residence. We examine the influence of local ties to family and gender asymmetries. Our findings indicate that women tend to bridge the larger share of the distance when moving into co-residence. Living close to non-resident children, parents or siblings and having resident children lower one's share in the total distance moved. Men's local ties to non-resident family have more influence than women's, while women's resident children seem to exert more influence. Our results suggest that traditional gender patterns shape couples' decision-making about where to live together and who migrates the greater share of the distance.

KEYWORDS

child residence, co-residence, family ties, gender, migration, union formation

1 | INTRODUCTION

When two romantic partners decide to live together, one of the most important decisions they have to make is where to live: who moves in with whom, or where will the new destination for both of them be? This decision has an especially pronounced effect on partners who live long distances from each other. In these couples, one or both partners will need to not only change residence but also change their geography of daily life and leave behind their local ties to work, family and friends. As such, those who move a long distance (i.e., migrate¹) to live with their partner are likely to experience losses in terms of their career and social network.

The literature suggests that couples' migration decision-making, and the consequences of their decision for earnings and employment, are likely to be gendered (see, e.g., Cooke, 2003; Vidal et al., 2017). The common pattern is that of women being 'tied migrants' to their male partners, whose careers tend to drive the migration and gain from it (Boyle et al., 2001; Cooke, 2008a; McKinnish, 2008). Although some studies suggest that this pattern has weakened since the rise of dual-career couples (Cooke, 2013; Lundholm, 2007; Smits et al., 2004), traditional gender structures still operate across a range of countries (Vidal et al., 2017).

While there is ample research on family migration (reviewed by Cooke, 2008b), very few studies have investigated migration to form a joint household. Yet, these studies show a gendered mobility pattern too. In Sweden, women were more likely to move—and over

¹Throughout this paper, the term 'migration' refers to internal migration.

longer distances—than men at the start of co-residence, especially when the partners lived far apart before co-residing (Brandén & Haandrikman, 2018). In Belgium, it is more common for women to move to the municipality of their male partner at the start of co-residence than vice versa (Schnor & Mulder, 2018). However, Krapf et al. (2021) did not find evidence of women in Germany being more likely to move for co-residence than men; they explain this contradictory finding on the basis of their relatively young and mostly childfree sample.

Important predictors of family migration (Mulder & Malmberg, 2014) as well as migration to form a joint household (Brandén & Haandrikman, 2018; Krapf et al., 2021; Schnor & Mulder, 2018) are people's ties to their current location. In addition to, for instance, ties to work or a home, family members living nearby act as a strong deterrent of migration (see Mulder, 2018 for more on the role of family outside the household in internal migration and immobility). Also in the context of starting co-residence, living close to a parent lowers the likelihood of migrating (Brandén & Haandrikman, 2018). Generally, parents, children and siblings tend to be key figures in each other's lives, who regularly exchange support across the life course (e.g., Bengtson, 2001); geographic proximity facilitates these support exchanges (e.g., Knijn & Liefbroer, 2006). Yet, the scarce literature on migration for co-residence does not deal with local ties to family in much detail, ignoring, for instance, the role of non-resident children, siblings and children's age.

The current paper addresses the issue of whether the man or woman, in opposite-sex long-distance couples, moves the longest distance when starting co-residence. We do so by looking at each partner's share in the total distance moved by both partners in the year of entry into co-residence. Our aim is to explore the influence of local ties to family members on who moves furthest, as well as explore gender asymmetries in the influence of his and her local family ties on moving for co-residence, accounting for other relevant factors.

We make three main contributions to the literature. First, we uniquely model a couple-level outcome that captures information on both individual partners' mobility, allowing us to analyze their relative contributions to bridging the distance between them. Second, we use detailed measures of each partner's local ties to family, including information on both resident and nearby non-resident parents, siblings and children. Third, we not only include independent variables on the level of the individual, but also relative measures at the couple-level as well as information about both partners' municipalities of origin (i.e., where they lived before co-residence). As such, our analytical approach allows us to examine the effects of both partners' local ties to family on their joint mobility outcome, thereby providing greater insight into the importance of geographic proximity to family in migration decisions. We use data from the Danish population register on all opposite-sex couples who entered co-residence between 1 January 2009 and 31 December 2017 and who lived 60 km apart or more within Denmark before co-residence ($N = 72,659$). In this way, we select couples in which at least one partner had to move a long distance (≥ 30 km). We adopt a multi-level

cross-classified statistical framework to simultaneously account for both partners' location of origin.

Denmark is one of few countries that offers detailed, longitudinal and high-quality data on geographical locations and family relations of all registered individuals in the country (see Eurostat & Statistics Denmark (1995) for more on the Danish population register). Mobility levels in Denmark are fairly high, especially among young adults, with approximately one-sixth of the Danish population changing address each year (Andersen & Nørgaard, 2018). In comparison to other European countries, very few people in Denmark never move and many move frequently (Bernard, 2017)². About two-thirds of all moves occur within the same municipality and thus over fairly short distances (Statistics Denmark, 2011–2019). Only 10% of moves are between regions (Andersen & Nørgaard, 2018). Little is known about motives for migrating and location preferences in the Danish context, but generally speaking, long-distance moves tend to be mostly for education or employment reasons and short-distances moves for housing-related reasons (Andersen & Nørgaard, 2018).

Similar to many other European countries, urban areas have experienced greater population growth than rural areas in recent decades (Kupiszewski et al., 2001; Statistics Denmark, 2016). Yet, migration patterns in Denmark are complex and moves are not solely oriented toward big cities (for more detailed information on migration patterns in Denmark, see Andersen & Nørgaard, 2018; Kupiszewski et al., 2001). In fact, a rather large share (43%) of the Danish population lives in rural areas (the EU average is 24%; see Statistics Denmark, 2016). Public service facilities, such as daycare for children and education, are widely available in rural areas (Cefalo et al., 2020). Denmark also ranks high in gender equality when compared with other European countries. For instance, the gender gap in unpaid care work and domestic work is among the lowest of Europe. Nevertheless, some economic inequality between men and women remains, albeit less than in most other European countries (Eurofound & Eige, 2021).

2 | BACKGROUND

2.1 | Long-distance couples

Studies of household formation rarely focus on long-distance couples. Even though the average distance between partners has increased over time, most partners still live relatively close to each other before they move in together³ (Haandrikman, 2019). Yet, long-distance couples starting co-residence make an interesting case, as their joint location decision is in fact a migration decision with considerable consequences for one or both partners' daily lives and

²Using SHARE survey data, Bernard (2017) showed that only 1% of individuals had never moved between ages 17 and 50, while 49% had moved at least five times and 16% had moved eight times or more.

³In Sweden, half of all couples lived within 9 km of each other before moving in together (Haandrikman, 2019).

local ties, depending on who migrates. Moreover, to study the influence of local ties to family members, it is essential to focus on long-distance couples and thereby long-distance moves, considering that short-distance moves can take place without affecting local ties.

Compared with those who live in close proximity, long-distance couples are more geographically mobile before co-residence and have fewer local ties (Brandén & Haandrikman, 2018; Haandrikman, 2019). For example, they live further from their parents than individuals in short-distance couples (Krapf et al., 2021). Additionally, men living in rural areas, those moving directly from the parental home into a co-residential union, higher-educated individuals, and students are all more likely to have a partner at a longer distance (Haandrikman, 2019). Arguably, migration for co-residence might be more easily undertaken by those with a history of geographic mobility, especially if it means they have fewer ties to their current location than those without a history of long-distance moving. It is therefore important to account for individuals' mobility history and other location-specific ties to the area.

2.2 | Individual migration, couple decision-making

When long-distance couples wish to form a joint household, they have to agree on where to live together and, as a consequence, who moves to do so. There are a few scenarios, two of which are that she moves in with him or that he moves in with her. Alternatively, they could both move into a new house that is close to him or to her, somewhere in the middle, or at a new location that is far away for both. Wherever they decide to live, one or both will need to migrate.

Conceptually and theoretically, migration to start co-residence is a special case, similar only to migration at union dissolution. That is, while the decision about the migration as well as the outcome are at the couple level, it is not a couple but individuals who move—some individuals alone, others with resident children from a previous relationship. Following Mincer (1978), a household's decision to migrate or stay is based on the balancing of the monetary and non-monetary costs and benefits of migrating for all members of the household. In this particular case, however, the partner, who is not yet a member of the household, has a direct influence on the migration decision too. That is, if one's partner is willing or unwilling to migrate to live together, one may or may not need to migrate oneself. Moreover, one cannot decide independently to move in with one's partner without their agreement.

In general, migration is a costly endeavour that is not undertaken lightly, not least because of the emotional costs involved with severing ties to a location. Therefore, people are generally inclined to stay in place unless a clear trigger motivates a move and the pressure to move is greater than the resistance to moving (Huff & Clark, 1978). While starting co-residence is a clear trigger, co-residence and the associated benefits can also be achieved without migrating oneself, namely if one's partner migrates instead. For most, there will be few other benefits of migrating (e.g., job-related), assuming that the sole reason to migrate is to start co-residence. In fact, it is not unlikely

that both individuals prefer to stay in their current home or to find a new joint home nearby and have their partner migrate in their direction.

Given that migration decisions are made by the couple rather than the individual and the costs of migrating may be high for both individuals, the decision about who migrates depends not only on individual costs, but also on whose costs are higher and whose costs carry more weight. We therefore take both an individual-level and a couple-level perspective, focusing on the costs of migration related to family ties.

2.3 | Family ties from the individual and couple perspective

An individual's migration costs depend largely on their local ties: human, economic, and social capital that cannot, or cannot easily, be relocated⁴. Family and friends living nearby are one type of local ties, as individuals are often inclined to live near their parents, siblings and children (see, e.g., Kolk, 2017 on Sweden; Mulder & Kalmijn, 2006 on the Netherlands). Distances between parents and minor non-resident children are particularly small—in Denmark, 41% lived within a 5 km distance of each other in 2018 (Statistics Denmark, 2018/2018).

Geographic proximity is crucial in facilitating frequent face-to-face contact and support exchanges (e.g., Knijn & Liefbroer, 2006). For many, there is an inherent value in living close to family and so, local family ties represent costs of migrating and benefits of staying (see Mulder, 2018). Indeed, Danes' desire to live close to parents and siblings appears an important factor in their location choices (Dahl & Sorenson, 2010). Living near non-resident family can form a common motive for staying or a deterrent to moving (Thomassen, 2021) and having parents, siblings and/or children living nearby reduces the likelihood of moving away (e.g., Brandén & Haandrikman, 2018; Clark et al., 2017; Mulder & Malmberg, 2014; Spring et al., 2021; van der Wiel et al., 2021). We therefore hypothesise that *living close to family—parents, siblings, or children—is associated with a lower share in the total distance moved for co-residence by both partners (H1)*.

Furthermore, resident children implicate high costs of migrating, as parents generally wish to protect their children's local ties to school, friends and home (Bailey et al., 2004; Mincer, 1978). Brandén and Haandrikman (2018) reported a negative effect of having children in the household on the likelihood of moving for co-residence. Similarly, Mulder and Malmberg (2014) showed that families with school-aged children were less likely to migrate than those without. Hence, our second hypothesis is that *having resident children, especially school-age children, is associated with a lower share in the total distance moved for co-residence by both partners (H2)*.

From a couple perspective, the decision where to live together is likely affected by within-couple differences in ties to the current location, in both number and strength, and in bargaining power,

⁴The term 'local ties' is used as a synonym for location-specific capital (DaVanzo, 1981).

resulting from a relative resource advantage as well as gender structures. Arguably, the partner with more local ties will have a greater desire to stay in place. In this light, having family living nearby and/or resident children, who have local ties of their own, may be used to justify wanting to stay and to argue that the partner should migrate if he/she has less to lose from migrating. Therefore, we hypothesise that *having more local family ties than one's partner is associated with a lower share in the total distance moved for co-residence by both partners (H3)*.

While H3 is gender neutral, there is good reason to expect gender differences in whose local ties to family are more influential. On the one hand, family ties may be valued more strongly by women than men and as such represent higher costs of migrating to women. Even though men actually tend to live closer to their parents than women (Blaauboer et al., 2011 for the Netherlands; Løken et al., 2013 for Norway; Malmberg & Pettersson, 2007 for Sweden; opposite results in the United States—Compton & Pollak, 2009), women typically have stronger family relationships (Fingerman et al., 2020; Rossi & Rossi, 1990) and stronger intergenerational caregiving ties (see, e.g., Cox, 2003). Correspondingly, Krapf et al. (2021) found that living close to parents reduced women's but not men's likelihood of moving for co-residence in Germany. Children, too, seem to be a more important factor in women's than in men's migration propensities (see Fischer & Malmberg, 2001). As such, women's resident children may take preference over men's resident children. Overall, this perspective leads us to hypothesise that *the negative association between having local family ties and one's share in the total distance moved for co-residence is stronger for the female partner than for the male (H3a)*.

On the other hand, established gender roles shape within-couple bargaining power and dictate that men's interests take priority in family migration decisions (see Bielby & Bielby, 1992). In this case, the man's local ties to family may carry more weight than the woman's. This male-dominance perspective has been supported by prior research on couples' local ties to work (see, e.g., Cooke, 2003) and leads us to the alternative hypothesis that *the negative association between having local family ties and one's share in the total distance moved for co-residence is stronger for the male partner than for the female partner (H3b)*.

2.4 | Other factors

An important source of within-couple bargaining power is having more resources than one's partner. The person with more resources has a stronger safety net were the relationship to dissolve, while the one with fewer resources is more dependent on their partner (Blood & Wolfe, 1960). Consequently, the partner with a resource advantage has more influence in decision-making, including decisions about where to live. As such, they are in a better position to bargain that their partner should migrate in their direction, thereby reducing their own share in the total distance moved for co-residence.

Indeed, previous research has shown that women's higher likelihood of moving for co-residence (and over longer distances) is partly the result of a relative bargaining disadvantage (Brandén & Haandrikman, 2018). In the context of divorce, individuals with a resource advantage are less likely to move than their ex-partner (Mulder et al., 2012). Two indicators of relative resource differences within a couple are age and income. The older partner has typically acquired more resources, having had more time and opportunity to make a career and accumulate savings (see Mulder & Wagner, 2010). Homeownership versus rental accommodation represents another resource advantage, which, in addition to conveying bargaining power, also makes it more appealing to move into the owner-occupied home. Having completed more formal education than one's partner also matters in the context of family migration decision-making (Åström & Westerlund, 2009) and reduces the likelihood of moving for co-residence among long-distance couples in Germany (Krapf et al., 2021).

Apart from the impact of relative resources, absolute resources are likely to have a separate impact on migration for co-residence. Income and level of education are known to be relevant predictors in studies on migration (see, e.g., Faggian et al., 2015; Lundholm, 2007), but the expected direction of the effects is not obvious. On one hand, those with higher income may be better able to afford migration than those with lower income. Also, the higher educated may gain more (or lose less) from migrating than the lower educated, because of the higher geographic ubiquity and greater potential for earnings growth associated with their occupations (see Brandén, 2013; Fischer & Malmberg, 2001). On the other, these resources convey power, which a person may use to bargain that their partner should migrate, not them.

In addition to family ties, many other local ties can increase the costs of migration and would therefore expectedly lower one's share in the distance moved for co-residence. In general, the longer one's history at a residential location, the more ties to that location one will have likely formed (e.g., Fischer & Malmberg, 2001; Mulder & Malmberg, 2014). Duration of residence, living in one's municipality of birth and being a native to the country can therefore be seen as general indicators of a person's local ties, as well as how mobility-prone one is. It may be that the person has ties to the partner's location, too, if one has lived there in the past. Homeownership (e.g., Fischer & Malmberg, 2001) and having a job close to home (Mulder & Malmberg, 2014) also constitute ties to a location. Self-employment is another indicator, as having one's own business frequently implies local investments. The argument behind Hypothesis 3 on family ties can be extended to other local ties, in that having more local ties than one's partner could result in a lower share in the total distance moved for co-residence.

Several other factors may influence migration at the start of co-residence. To begin, migration is highly age-specific (Bernard et al., 2014; Fischer & Malmberg, 2001). One's previous union history is a relevant factor, as separation or divorce leads to some people becoming more protective of their own residence and interests in a new romantic partnership (van der Wiel et al., 2018). Further, the geographical context of opportunities and constraints might affect one's need or desire to

migrate. Some relevant features of the partners' municipalities of origin are the degree of urbanisation (Mulder & Malmberg, 2014), average income and employment opportunities (Thomas et al., 2017).

3 | DATA, MEASURES AND METHODS

3.1 | Data set and study population

We used data from several Danish population-based national registers, which provide longitudinal information on the entire population of Denmark, including information on locations and family ties (Eurostat & Statistics Denmark, 1995). Information at the municipality level, used to account for partners' geographical context, was collected from StatBank Denmark.

Our study population was comprised of opposite-sex couples aged 18–70⁵ who entered co-residence between 1 January 2009 and 31 December 2017⁶ and who were living apart 60 km or more before co-residence (about 15% of all new couples). We selected long-distance couples, living 60 km or more apart, because of the implication that at least one of the partners had to move a long distance (i.e., migrate), over 30 km or more, at the start of co-residence. Moves over such a distance are likely to have a serious impact on one's own and any resident children's daily lives and on the frequency of face-to-face contact between non-resident family members. In Section 4.5, we report the results of sensitivity checks using other distance thresholds.

The Danish population register classifies two people of the opposite sex sharing an address as a co-residing couple, on the condition that they are not family members, that the age difference between them is less than 16 years, and that no other adults live at the same address. As a result of this classification, it is likely that some co-residing people are misclassified as being a couple. Misclassification will likely be most common among young people and students—those who regularly live with a roommate or friend. However, such misclassifications do not seem to cause any significant bias in our analyses (see Section 4.5).

Our final data set contained 72,659 couples and co-residence events, after excluding some observations due to missing location and/or distance data. Approximately 4.5% of men and women in our population experienced entry into co-residence with a long-distance partner multiple times within the window of observation, thereby contributing more than one event (see Section 4.5 for a sensitivity check).

3.2 | Dependent variable

Our dependent variable is the female partner's share in the total distance moved by both partners in the year of entry into

co-residence, with the male partner's share being the complement. This couple-level measure reflects each partner's relative contribution to bridging the distance between them and allowed us to examine the effects of both partners' local family ties and other characteristics on their joint mobility outcome. Thus, our dependent variable reflects the proportional distance moved by the woman. For example, if she moved in with him and they lived 70 km apart, then $Y = 70/(70 + 0) = 1$. If both partners moved to a new location that was 60 km away from her residence and 40 km away from his residence, then $Y = 60/(60 + 40) = 0.6$. Naturally, the man's share in the total distance moved would be 0.4 in this case. A high value of Y thus implies that the woman moved towards her male partner⁷. Given our selection of long-distance couples (≥ 60 km apart), the minimum total distance moved by both partners together is 60 km and at least one partner moved a distance of 30 km or more.

We used yearly address data to determine the year of entry into co-residence. When a man and woman lived at separate addresses on 1 January of year t and shared an address 1 year later, year t was identified as the year of entry into co-residence. To determine whether a person moved, we checked whether the person was registered at the same address in year $t + 1$ as in year t . If the person had moved, we approximated the distance of the move using the straight-line distance between the centre points of the parishes in which the person's previous and new address were located⁸. Since we use yearly data, we do not account for multiple moves within 1 year. We thus assume that any move that occurs during the year is related to the event of co-residence. Also, any distance between the addresses of 1 January of year t and $t + 1$ is assumed to be the result of one move, not multiple moves⁹.

3.3 | Independent variables

Our key independent variables are measures of nearby family ties. To start, two variables convey information on children born before the current relationship: one variable concerns *resident children* (i.e., living in the same household), and distinguishes between those of school-going age (6–17), those below school-going age (<6) and adult children (18–35)¹⁰; the other variable concerns *non-resident children*

⁷A value of Y around 0.5 could indicate that both partners moved halfway, but it could also mean that they moved to a new location that is far away for both. However, as we aim to explore each partner's share in the burden of moving for co-residence, both situations are qualitatively the same.

⁸Data access practicalities precluded our ability to look at road network distances and exact straight-line distances between addresses. Available to us were anonymized identifiers of people's address (street, house number, sometimes house letter and/or floor), which together with the municipality identify a unique location and dwelling. However, because addresses were anonymized and we did not have coordinates, we could not calculate distances between locations. Straight-line distances between the centre points of parishes were the most fine-grained geographical data available to us. These distance calculations were made on geodatabase Map10 (2017) as provided by the Danish Agency for Data Supply and Efficiency. There were 2,083 parishes in 2018 with a median population size of 1,100.

⁹In the full population of Denmark, 83% of those who changed address between 2010 and 2018 moved only once within the year (Statistics Denmark, 2011–2019).

¹⁰Couples were excluded from the analyses if one or both partners had a resident child over 35 years old, thereby reducing the sample of long-distance couples by 102. Rather than the child still living in the parental home, it is not unlikely that the parent lived with his or her child (e.g., to provide or receive care).

⁵We set the upper age limit to 70 because very few individuals above that age started a new co-residential relationship.

⁶The selection of time period 1 January 2009 to 31 December 2017 was based on data availability.

living nearby and distinguishes between minor and adult children. Only those minor non-resident children of whom the individual has legal custody are included. Living nearby is operationalized as living less than 5 km away, as previous research in the Netherlands showed that parents and children are more likely to exchange instrumental support when living within 5 km of each other rather than further away (Knijn & Liefbroer, 2006). Next, we include information on *local ties to parents and siblings*¹¹, distinguishing those who co-reside from those who live nearby (<5 km). As with the dependent variable, distances to family members are measured as straight-line distances between the centre points of parishes in which addresses are located.

As a control variable, an indicator of one's most recent *union experience* refers to any prior co-residential partnerships observed since 1986, with the following categories: never in a union before; in a union on 1 January; separated or divorced¹²; widowed and unknown¹³. Within the groups of separated, divorced and widowed persons, we distinguish between those who stayed in the prior joint home and those who moved out in the year of separation/divorce/widowhood.

We also controlled for age and the individual's disposable personal *income* of the previous year, net of interest and taxes (DKK/10,000). A categorical variable indicates individuals' highest level of completed *education* (up to secondary, short cycle tertiary, Bachelor's or equivalent, Master's or above, unknown). It is mostly immigrants for whom the level of education is unknown (this is the case for 27% of all immigrants in our data set), because education obtained abroad is not included in the Danish register. Individuals who are enrolled as students are identified in the categorical variable on *employment status*, which further distinguishes between those who are employed, self-employed (with or without employees), pensioned, not in the labour force and other. This classification is based on the person's main source of income in a given tax year. If a person is employed but also enrolled as student, the person will be classified as student if they worked less than 950 hours that year.

An additional control variable marks the shortest road-distance between one's home address and *workplace* address¹⁴ (<10 km, 10–49 km, ≥50 km, unknown). Relatively many people fall in the category unknown; firstly, not everyone has a workplace; secondly, the distance to the workplace is unknown for those who work abroad or, for example, on a ship. For those working for a company with several local branches, the workplace is the specific location of their employment, not the company's headquarters. *Housing tenure* indicates whether someone lives in rental or owner-occupied housing, or if tenure is unknown. What was unknown to us was who owns the home; for those living with a parent, this classification is likely more

indicative of parental homeownership rather than the individual. A dummy variable indicates whether someone lives in one's *municipality of birth* and a categorical variable marks the number of consecutive *years lived in the current municipality* (0–2 years, 3–5 years, 6 years or more). Looking back as far as 1986, a categorical measure identifies whether someone has ever lived in his or her *partner's municipality* before co-residence (yes, no or unknown). A dummy indicates whether someone is a *native* to Denmark or an immigrant. Two additional variables indicate a relative resource advantage. One indicates which partner has an age advantage of 3 years or more (he, she, neither). The other is the male *income advantage*, calculated as the man's share in the total couple income minus the woman's share. This variable ranges from –1 (the woman contributes all of the total couple income) to 1 (the man contributes all of the total couple income). Information about each partner's municipality of origin includes *population density* (people per km²/1,000), average yearly disposable family *income* (DKK/10,000), and percent long-term *unemployment*.

The long-distance couples we selected were very similar to the overall population of couples with respect to the independent variables. Several small differences were that, before co-residence, individuals in long-distance couples were somewhat less likely to live close to parents, more likely to live with parents, had a slightly higher average commuting distance, and women were more often students.

The independent variables were measured before a potential move and updated annually—most on 1 January, with exception of distance to the workplace (last working day of November of the year before) and educational attainment (1 October of the year before). See Table 1 for summary statistics for the individual-level variables and Table 2 for the couple-level variables.

3.4 | Analytical strategy

A couple's choice of location for co-residence likely depends, at least in part, on how attractive their current places of residence are (i.e., their places of origin before co-residence). Therefore, we applied a multi-level modelling approach, with couples geographically nested simultaneously within men's and women's municipality of origin before co-residence. Municipalities are a relevant geographic unit in people's daily lives, providing local infrastructure, such as schools. Denmark comprises 98 municipalities with a median area of 360 km² and a median population of 43,000 in 2018. Our cross-classified multi-level model (Fielding & Goldstein, 2006) properly accounts for both partners' geographical contexts as sources of variation and clustering and ensures a correct estimation of the standard errors of the municipality-level controls¹⁵.

Because the data structure is non-hierarchical, we refer to the two municipalities of origin not as levels, but as classifications—the two contexts operate at the same higher level. The effects of the

¹¹Included are both full and half siblings, adopted or biological; stepsiblings are not included.

¹²Those whose cohabiting partner died are also included in this category—'widowed' only applies to married partners.

¹³If the person was previously not in the population register, most likely because of living abroad, this information was classified as unknown.

¹⁴The distance between someone's home and workplace is specified as the road-distance between the two addresses. This measure differs from our other distance measures because it was a ready-made variable that was available to us from Statistics Denmark.

¹⁵For a similar application of this technique, see Thomas et al. (2015) who used a multi-level cross-classified framework to simultaneously model origin and destination contextual variations in moving.

TABLE 1 Descriptive statistics of independent variables on the individual level, column percentages

Individual variables	Women	Men
Resident child(ren)		
None	80.7	94.0
A school-going child (age 6–17)	12.3	3.4
A child aged <6, no school-going child	4.6	1.1
Only child(ren) aged 18–35	2.5	1.5
Local ties to custodial, non-resident child(ren)		
None nearby	94.8	93.4
A minor child nearby	0.9	3.6
Only adult child(ren) nearby	4.3	3.0
Local ties to parents		
None nearby or resident	69.4	67.9
At least one resident parent	14.6	15.4
A parent nearby	16.1	16.7
Local ties to siblings		
None nearby or resident	70.3	71.5
At least one resident sibling	18.6	18.3
Sibling nearby	11.2	10.2
Most recent union experience		
Never in union before	36.9	38.1
In union on 1 January	9.1	8.2
Separated/divorced—moved out	32.3	26.8
Separated/divorced—tayed	13.9	20.1
Widowed from spouse—moved out	0.3	0.1
Widowed from spouse—stayed	1.2	1.0
Unknown	6.36	5.67
Mean age	30.4	32.4
Mean personal disposable income (DKK/10,000)	15.2	18.7
Completed education		
Up to secondary	73.6	77.2
Short cycle tertiary	3.1	4.4
Bachelor's or equivalent	15.1	9.9
Master's or above	4.8	5.8
Unknown	3.4	2.7
Employment status		
Employed	50.2	63.3
Self-employed without employees	1.4	3.2
Self-employed with employees	0.3	0.7
Unemployed	7.0	5.8
Student	30.6	18.5

TABLE 1 (Continued)

Individual variables	Women	Men
Pensioned	1.0	1.2
Not in labour force	4.6	3.2
Other	5.0	4.2
Distance to workplace		
<10 km	34.6	33.3
10–49 km	17.4	21.0
≥50 km	9.1	15.5
Unknown	39.0	30.2
Housing tenure		
Rental housing	66.4	55.8
Owner-occupied home	29.2	39.5
Unknown tenure	4.4	4.7
Living in municipality of birth		
No	97.8	97.6
Yes	2.2	2.4
Years lived in municipality		
0–2 years	33.9	31.5
3–5 years	18.9	18.4
6+ years	47.3	50.2
Has ever lived in partner's municipality before		
No	68.2	68.2
Yes	17.6	17.1
Municipality unknown	14.2	14.7
International migrant status		
Native	89.4	91.3
Immigrant	10.6	8.7
Mean population density in municipality (people per km ² /1,000)	1.3	1.2
Mean disposable income for all families in municipality (DKK/10,000)	32.3	32.3
Mean percentage long-term unemployment in municipality	1.1	1.1

Note: These are the independent variables of model 2, Table 5.

Source: Danish population register & StatBank Denmark; own calculations.

man's and woman's municipality might interact, such that the effect of where she lives depends on where he lives, and vice versa. We therefore included random interaction effects between both partners' municipalities. It was not possible to include couples' municipality of destination as a fourth higher classification, because the municipality of origin and destination are not independent; rather, in many couples, one partner stays in the same municipality while the

TABLE 2 Descriptive statistics of independent variables on the couple level, column percentages

Couple variables	
Resident child(ren)	
Man only	3.1
Woman only	16.5
Both partners	2.9
Neither partner	77.6
Custodial, non-resident child(ren) living nearby	
Man only	5.7
Woman only	4.3
Both partners	0.9
Neither partner	89.1
Sibling or parent living nearby	
Man only	21.7
Woman only	22.2
Both partners	14.3
Neither partner	41.9
Resident sibling or parent	
Man only	13.4
Woman only	12.7
Both partners	6.5
Neither partner	67.4
Ever lived with a partner before	
Man only	11.0
Woman only	11.9
Both partners	42.4
Neither partner	24.2
Either partner missing data	10.5
Age advantage ≥3 years	
He	39.8
She	10.9
Neither	49.3
Mean male income advantage	0.1
Tertiary education	
Man only	9.1
Woman only	12.2
Both partners	10.4
Neither partner	63.1
Either partner missing data	5.3
Employed	
Man only	26.3

TABLE 2 (Continued)

Couple variables	
Woman only	13.2
Both partners	37.1
Neither partner	23.5
Self-employed	
Man only	3.7
Woman only	1.5
Both partners	0.2
Neither partner	94.7
Workplace nearby	
Man only	8.7
Woman only	12.3
Both partners	6.7
Neither partner	19.3
Either partner missing data	53.0
Owner-occupied home	
Man only	25.6
Woman only	15.6
Both partners	12.3
Neither partner	46.5
Duration of residence in municipality ≥6 years	
Man only	25.3
Woman only	22.4
Both partners	24.9
Neither partner	27.5
Native	
Man only	5.4
Woman only	3.5
Both partners	85.8
Neither partner	5.2

Note: These are the independent variables of model 3, Table 6. See Table 1 for the descriptive statistics of the three municipality-level variables, which are also part of model 3.

Source: Danish population register; own calculations.

other partner migrates. The model notation, expressed using the classification of Browne et al. (2001), is:

$$y_i = (X\beta)_i + u_{F^*M\text{mun}}^{(4)} + u_{F\text{mun}}^{(3)} + u_{M\text{mun}}^{(2)} + e_i$$

$$u_{F^*M\text{mun}}^{(4)} \sim N(0, \sigma_{u^{(4)}}^2)$$

$$u_{F\text{mun}}^{(3)} \sim N(0, \sigma_{u^{(3)}}^2)$$

$$u_{M\text{mun}}^{(2)} \sim N(0, \sigma_{u(2)}^2)$$

$$e_i \sim N(0, \sigma_e^2),$$

where y_i is the female partner's share in the total distance moved by both partners at the start of co-residence for the i th woman, which is a function of $(X\beta)_i$, representing the fixed part of the model. The random part of the model shows the remaining residual variation, where $u_{M\text{mun}}^{(2)}$ is the effect of men's municipality of origin, $u_{F\text{mun}}^{(3)}$ is the effect of women's municipality of origin, $u_{F*M\text{mun}}^{(4)}$ is the interaction effect of the combinations of women's and men's municipalities, and e_i is the couple-level residual error term. All parameters in the random part of the model are assumed to follow normal distributions with zero means and constant variances. The models were fit using maximum likelihood estimation. To compare model fit, we use the log-likelihood and the Akaike information criterion (AIC).

We estimated two separate main models using two alternative specifications of the independent variables in the fixed part of the model (see Mulder & Malmberg, 2014 who used a similar approach for studying the effect of local ties on family migration). The individual-level model includes separate detailed measures of local ties and resources for the female and male partner. The couple-level model uses relative measures of local ties and resources, indicating which partner(s) has/have the specific tie: he, she, both or neither. This last model is less detailed in its measures but still conveys information about the individuals while providing better opportunities to assess both partners' circumstances jointly and to compare the situations where both, neither or only the male or female partner has a specific tie or resource. We present separate individual-level and couple-level models as combining them would naturally result in multicollinearity. As base levels for the categorical variables, we used

categories that indicate the absence of a local tie. Analysis of the correlation matrix (not shown) indicated that there were no serious issues with multicollinearity (average VIF is 1.85 for the individual-level model and 1.48 for the couple-level model).

Significance testing with full population data is subject to ongoing discussion. We view our study population as a sample, or snapshot, from a larger theoretical 'super-population' over time and geography that is always evolving and subject to stochastic processes (Thygesen & Ersbøll, 2014). Even though there is no sampling error and chance has a limited influence on the outcome (due to the large number of observations), the values we observe are in part a result of chance and coincidence. Unobserved variables introduce further potential error. Therefore, we argue that significance testing is both appropriate and necessary in this study. We do, however, recognise that even trivial differences might be statistically significant when using very large datasets. Therefore, for findings not directly linked to our research question (e.g., controls), we focus on statistically significant results with an absolute effect size of 0.04 or larger (for categorical variables), representing a 4% point difference.

4 | RESULTS

4.1 | Descriptive statistics

Table 3 presents descriptive statistics for moving patterns at the start of co-residence in Denmark. To provide a general context, we present descriptive statistics for all 18–70-year-old individuals/couples in the population (regardless of the initial distance between them) in the left column but do not discuss these summary statistics further.

TABLE 3 Moving patterns at the start of co-residence in Denmark

	All couples	Long-distance couples
<i>N</i>	464,674	72,557
Who moves in with whom (%)		
She moved in with him	33.3	31.2
He moved in with her	26.0	23.6
Both moved to a new joint home, neither >30 km	25.7	n.a.
Both moved to a new joint home, she >30 km	5.1	18.7
Both moved to a new joint home, he >30 km	4.9	17.8
Both moved to a new joint home, both >30 km	5.0	8.7
Avg female share in total distance moved by both partners (%)	53.6	54.2
Median distance between partners (km)	8.8	119.4
Median distance moved (km)—movers only		
Women	7.5	89.7
Men	7.1	84.4

Source: Danish population register; own calculations.

TABLE 4 Variance components for the woman's share in the total distance moved by both partners at the start of co-residence

	Model 1: null		Model 2: full individual-level		Model 3: full couple-level	
	estimate	SE	estimate	SE	estimate	SE
σ_e^2 couple-level residual variance	0.2008	0.0011	0.1620	0.0009	0.1744	0.0011
$\sigma_{u(2)}^2$ men's municipality variance	0.0016	0.0003	0.0005	0.0001	0.0005	0.0002
$\sigma_{u(3)}^2$ women's municipality variance	0.0025	0.0005	0.0004	0.0001	0.0006	0.0003
$\sigma_{u(4)}^2$ men's * women's municipality variance	0.0019	0.0003	0.0018	0.0002	0.0019	0.0003
Log-likelihood	-45119.046		-37280.358		-39958.017	
Akaike information criterion (AIC)	90248.090		74738.720		80030.030	
Degrees of freedom	0		89		57	

Source: Danish population register; own calculations.

First, the average female partner's share in the total distance moved is slightly more than half (54.2%), and the median moving distance is higher for women (89.7 km) than for men (84.4 km). This gender asymmetry can be traced back to it being more common for her to move in with him (31.2%) than for him to move in with her (23.6%). This pattern is in line with the findings of Brandén and Haandrikman (2018) for Sweden and Schnor and Mulder (2018) for Belgium. Table 3 further shows that if both partners in a long-distance couple move to a new joint home, it is more common for either him (17.8%) or her (18.7%) to move a long distance (>30 km) in the direction of their partner than for both partners to migrate towards a location that is far away for both (8.7%). That is, one partner usually stays in the same area while the other migrates.

4.2 | Random effects

Table 4 shows the random intercept estimates of the constant-only model (model 1) and the two final models (models 2 and 3), for couples nested within a unified cross-classification of the female partner's and male partner's municipality.

Model 1, the constant-only—or variance components—model decomposes the total variability in the woman's share in the distance moved across the different classifications. Because none of the variability in the outcome is explained by independent variables in this model, σ_e^2 represents the total between-couple variance. Similarly, $\sigma_{u(2)}^2$, $\sigma_{u(3)}^2$ and $\sigma_{u(4)}^2$ together represent the contextual variance. In model 1, between-couple variation is estimated to account for around 97% of the total variation in the outcome¹⁶. The other 3% is contextual variation, attributable to where the partners lived before co-residence. We estimated these effects for all 98 municipalities of Denmark (results not shown but available upon request). The predicted effects of women's municipality on their own share in the total distance moved range from -0.160 to 0.086; the

effects of men's municipality on their distance share range from -0.124 to 0.063. Of all municipalities, living in Copenhagen or Frederiksberg is associated with the strongest reduction in one's own share in the distance. In other words, living in these places made it more likely that one's partner would move in with, or towards, them than vice versa. Overall, however, geographical context seems to play a modest role in a couple's decision where to live together and who moves or migrates.

Table 4 further shows that by introducing the independent variables (moving from model 1 to models 2 and 3), the unexplained variability between couples (σ_e^2) is substantially reduced¹⁷. The unexplained contextual variability is also considerably lower in models 2 and 3 compared to model 1, as they include variables on each partner's municipality of origin (e.g., population density). The individual-level variables of model 2 seem to have more explanatory power than the couple-level variables in model 3 (this is also reflected in the superior goodness-of-fit).

4.3 | Individual-level and couple-level family ties

Table 5 presents estimates of the individual-level fixed effects of model 2. For readability, we report the effects of the woman's characteristics on the woman's share in the distance moved, and the effects of the man's characteristics on the man's share. However, both sets of coefficients were obtained from one and the same model, which included both the woman's and man's characteristics as independent variables. To show the effects of the man's characteristics on his share of the distance, we simply used the opposite sign of the original coefficients. For instance, the man's coefficient for age was estimated as $B = 0.006$, as the effect on the woman's share is positive, but we report it as $B = -0.006$ because the effect on the man's own share is negative.

¹⁶Using model-1 estimates, the couple-level variation is: $\sigma_e^2 / (\sigma_e^2 + \sigma_{u(2)}^2 + \sigma_{u(3)}^2 + \sigma_{u(4)}^2) = 0.2008 / (0.0019 + 0.0025 + 0.0016 + 0.2008) = 0.9707$.

¹⁷Between models 1 and 2, the unexplained between-couple variation is reduced by approximately 19%, calculated as $(0.2008 - 0.1620) / 0.2008 \times 100$.

TABLE 5 Multi-level cross-classified model—the effects of each partner's individual characteristics on their own share in the total distance moved by both partners at the start of co-residence

	Woman's characteristics and share		Man's characteristics and share	
	B	SE	B	SE
Resident child(ren) (ref. none)				
A school-going child (age 6–17)	−0.145***	0.005	−0.129***	0.009
A child aged <6, no school-going child	−0.122***	0.008	−0.111***	0.015
Only child(ren) aged 18–35	0.002	0.010	0.023	0.013
Local ties to non-resident child(ren) (ref. none nearby)				
A minor child nearby	−0.113***	0.016	−0.133***	0.008
Only adult child(ren) nearby	−0.019*	0.008	−0.005	0.009
Local ties to parents (ref. none nearby or resident)				
At least one resident parent	0.150***	0.006	0.190***	0.005
A parent nearby	−0.040***	0.005	−0.052***	0.005
Local ties to siblings (ref. none nearby or resident)				
At least one resident sibling	0.037***	0.006	0.051***	0.006
Sibling nearby	−0.041***	0.004	−0.043***	0.004
Most recent union experience (ref. no prior union)				
In union on 1 January	0.083***	0.006	0.066***	0.006
Separated/divorced—moved out	0.000	0.005	0.008	0.005
Separated/divorced—stayed	−0.025***	0.006	−0.059***	0.005
Widowed from spouse—moved out	−0.074**	0.027	−0.121**	0.042
Widowed from spouse—stayed	−0.083***	0.016	−0.087***	0.016
Unknown	0.006	0.008	0.000	0.008
Age	−0.007***	0.000	−0.006***	0.000
Disposable income (DKK/10,000)	−0.004***	0.000	−0.003***	0.000
Completed education (ref. up to secondary)				
Short cycle tertiary	−0.008	0.009	−0.021**	0.007
Bachelor's or equivalent	−0.006	0.005	0.017**	0.005
Master's or above	−0.038***	0.008	0.006	0.007
Unknown	0.002	0.010	0.020	0.011
Employment status (ref. unemployed)				
Employed	−0.003	0.007	−0.020**	0.007
Self-employed without employees	−0.056***	0.014	−0.077***	0.011
Self-employed with employees	−0.135***	0.030	−0.190***	0.020
Student	−0.030***	0.007	−0.014	0.008
Pensioned	−0.080***	0.019	−0.058**	0.017
Not in labour force	−0.027**	0.009	−0.041***	0.011
Other	−0.005	0.009	−0.005	0.010
Distance to workplace (ref. ≥50 km)				
<10 km	−0.104***	0.006	−0.155***	0.005

(Continues)

TABLE 5 (Continued)

	Woman's characteristics and share		Man's characteristics and share	
	B	SE	B	SE
10–49 km	-0.110***	0.006	-0.162***	0.005
Unknown	0.016**	0.006	-0.006	0.005
Housing tenure (ref. rental)				
Owner-occupied	-0.028***	0.004	-0.070***	0.004
Unknown tenure	0.052***	0.008	0.046***	0.007
Living in municipality of birth	0.021	0.012	-0.024*	0.012
Years lived in municipality (ref. 0–2 years)				
3–5 years	0.023***	0.004	-0.003	0.005
6+ years	0.008	0.004	-0.035***	0.004
Ever lived in partner's municipality before (ref. no)				
Yes	0.040***	0.004	0.076***	0.005
Municipality unknown	0.008	0.004	0.008	0.004
Native (ref. immigrant)	-0.038***	0.006	0.024***	0.007
Population density in municipality (people per km ² /1,000)	-0.014***	0.002	-0.014***	0.002
Avg. disp. family income in municipality (DKK/10,000)	-0.002***	0.000	-0.001**	0.000
Percent long-term unemployment in municipality	-0.015*	0.006	-0.010	0.006
Constant	0.618***	0.024		

Note: Results obtained from one model with Y = woman's share, including variables on both the man's and woman's characteristics. The inverse was taken for the effects of the man's characteristics on the man's share; see Table 4 for the random part of the model.

Abbreviations: CI, confidence interval; SE, standard error.

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

Source: Danish register data, own calculations.

As expected, men and women who live close to family move a considerably smaller share of the total distance than those without nearby non-resident family ($H1$). This finding signifies how local family ties increase the costs of migrating and the benefits of staying. Of all non-resident family, having a minor child living nearby has the largest effect on lowering one's share in the distance moved ($B = -0.113$ for women and $B = -0.133$ for men). We can assume that most of these parents have regular face-to-face contact with their child(ren) and share childcare responsibilities with the other parent, in which case geographical proximity is critical (see also van der Wiel et al., 2021). Compared to minor children, the effect of having an adult child living nearby is negligible for women ($B = -0.019$) and neither statistically nor substantively significant for men. Having a nearby non-resident parent or sibling is associated with a lower share in the distance moved for both men and women, with effect sizes in the range of -0.040 to -0.052 .

In contrast, having a resident parent increases one's share in the distance moved for co-residence substantially and even more for men than for women (women: $B = 0.150$; men: $B = 0.190$). For most individuals in our study, living with a parent likely signals an adult child living in the parental home (rather than of an elderly parent living with

the adult child). As these individuals do not live independently but with their parents, moving in with their partner will be a more logical option than their partner moving in with them, into the parental household. Living with a sibling has a similar effect as living with a parent, but much smaller (women: $B = 0.037$; men: $B = 0.051$). Of course, there is also a bit of correlation here, as most who live with a sibling also live with a parent.

In line with $H2$, having resident school-age children has a large effect, lowering parents' share in the total distance moved for co-residence (women: $B = -0.145$; men: $B = -0.129$). This finding probably reflects parents' desire to avoid disrupting their children's local ties to school, friends, and home (Mincer, 1978). The negative effect of younger resident children who are not yet school-going age is more modest than that of children aged 6–17 (women: $B = -0.122$; men: $B = -0.111$). In contrast, resident adult children (ages 18–35) have a negligible positive effect on men ($B = 0.023$) and no statistically nor substantively significant effect on women.

Table 6 reports the couple-level fixed effects of model 3. The relative measures indicate whether only she, only he, both or neither of them have a certain local tie. Importantly, the presentation of results here differs from those of model 2 in Table 5. For ease of

TABLE 6 Multi-level cross-classified model—the effects of couple characteristics on the woman's share in the total distance moved by both partners at the start of co-residence

	Woman's share	
	B	SE
Resident child(ren) (ref. neither)		
Man only	0.062***	0.01
Woman only	-0.133***	0.00
Both partners	-0.022*	0.01
Non-resident child(ren) living nearby (ref. neither)		
Man only	0.086***	0.01
Woman only	-0.062***	0.01
Both partners	-0.016	0.02
Sibling or parent living nearby (ref. neither)		
Man only	0.075***	0.00
Woman only	-0.049***	0.00
Both partners	0.024***	0.01
Resident sibling or parent (ref. neither)		
Man only	-0.250***	0.01
Woman only	0.184***	0.01
Both partners	-0.043***	0.01
Ever lived with a partner before (ref. neither)		
Man only	0.004	0.01
Woman only	0.020**	0.01
Both partners	0.008	0.01
Either partner missing data	0.010	0.01
Age advantage ≥ 3 years (ref. neither)		
He	0.040***	0.00
She	-0.049***	0.01
Male income advantage	0.129***	0.01
Tertiary education (ref. neither)		
Man only	-0.004	0.01
Woman only	-0.028***	0.01
Both partners	-0.035***	0.01
Employed (ref. neither)		
Man only	0.036***	0.01
Woman only	-0.010	0.01
Both partners	0.022***	0.00
Self-employed (ref. neither)		
Man only	0.151***	0.01
Woman only	-0.106***	0.01
Both partners	0.021	0.04

TABLE 6 (Continued)

	Woman's share	
	B	SE
Workplace nearby (ref. neither)		
Man only	0.053***	0.01
Woman only	-0.016**	0.01
Both partners	0.023**	0.01
Owner-occupied home (ref. neither)		
Man only	0.087***	0.00
Woman only	-0.013**	0.01
Both partners	0.024***	0.01
Duration of residence in municipality ≥ 6 years (ref. neither)		
Man only	0.058***	0.00
Woman only	-0.022***	0.00
Both partners	0.033***	0.00
Native (ref. neither)		
Man only	-0.026**	0.01
Woman only	-0.054***	0.01
Both partners	-0.075***	0.01
Population density in municipality (people per km ² /1,000)		
Woman	-0.017***	0.00
Man	0.015***	0.00
Avg. disp. family income in municipality (DKK/10,000)		
Woman	-0.003***	0.00
Man	0.002***	0.00
Percent long-term unemployment in municipality		
Woman	-0.017**	0.01
Man	0.010	0.01
Constant	0.587***	0.02

Note: see Table 4 for the random part of the model.

Abbreviations: CI, confidence interval; SE, standard error.

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

Source: Danish register data, own calculations.

interpretation, we report the results as effects on the woman's share of the total distance moved for co-residence. (The effects on the man's share are simply the opposite sign.) To start, in line with H3, having more local family ties than one's partner is associated with a lower share in the total distance moved. The woman's share in the distance is higher when the man alone has a resident child ($B = 0.062$) or lives close to a sibling or parent ($B = 0.075$) or child ($B = 0.086$), as opposed to neither partner, and lower when she alone has a resident child ($B = -0.133$) or lives close to a sibling or parent ($B = -0.049$) or child ($B = -0.062$). These findings suggest that the partner with more

local family ties than the other has a greater desire to stay, has more to lose from migrating and is less likely to be the one to migrate.

Based on effect size, there are some notable gender differences in the effects of local ties to family. We find partial support for both Hypotheses 3a and 3b. In support of the male-dominance perspective (H3b), local ties to non-resident family carry more weight when they are the man's family as opposed to when they are the woman's family. The association between women's share in the distance moved and men living close to their family is somewhat stronger in magnitude than it is for women living near their own non-resident family. The woman's share in the distance is also slightly higher when both partners live close to a sibling or parent as opposed to neither of them ($B = 0.024$), meaning a location decision is more favourable to the man than the woman.

In contrast, the couple-level results suggest that women's resident children may carry more weight in the migration decision than men's resident children. That is, the woman's share in the distance moved is more strongly negatively affected by her alone having resident children than it is positively affected by him alone having resident children (man only: $B = 0.062$; woman only: $B = -0.133$). Also, when both partners have a resident child—as opposed to neither—the woman's share in the distance is slightly lower ($B = -0.022$). This finding lends some support to the competing hypothesis *H3a*, which is grounded in the notion that women attach more importance to family ties and their children's local ties than do men.

Lastly, men seem to be especially driven to migrate towards their female partner when they live with a parent or sibling. The woman's share in the distance moved is higher when she alone has a resident sibling or parent ($B = 0.184$) and lower when he does ($B = -0.250$), as opposed to neither of them.

4.4 | Other factors

Several other local ties, resources, socio-demographic characteristics and contextual factors influence mobility at the start of co-residence. A comparison of the results of Tables 5 and 6 shows the relevance of looking at these characteristics at the individual level as well as for both partners jointly.

Prior union experiences affect people's location decision with their new partner. Widow(er)s move smaller shares of the distance than those without prior union experience. Separated or divorced men who stayed in the prior joint home at the time of dissolution also move smaller shares of the distance. Perhaps the experience of a prior dissolution makes one keener to protect one's local ties and interests (see van der Wiel et al., 2018 on commitment and risk-avoidance in non-residential relationships). Individuals who were still living with a different partner at the start of the year bridged a relatively large share of the distance. This is in line with earlier research showing that parents who separate and re-partner within the same year are particularly likely to migrate (van der Wiel et al., 2021)—probably to move in with their new partner.

Having a relative resource advantage conveys bargaining power and makes it more likely for someone to stay local while their partner migrates in their direction. Older age and a higher income, as well as having an age advantage or an income advantage over one's partner, lowers one's share in the total distance moved by both partners.

We found no clear effect of educational attainment, with the exception that women with a Master's degree or higher move a somewhat lower share of the total distance than women with up to secondary education, suggesting that education might function as a resource that conveys bargaining power for women.

Self-employed and pensioned men and women, as well as men who are not in the labour force for other reasons, move, on average, smaller shares of the total distance when compared with their unemployed counterparts. Being self-employed with employees has a large negative effect.

Ties to the current location, and having more local ties than one's partner, make it more likely for someone to stay local when starting co-residence. Those who live close to work move much smaller shares of the total distance than those who live more than 50 km from work. Living in owner-occupied housing has a negative effect for men, but no substantial effect for women. Overall, local ties to work and housing tenure seem to carry more weight for men than for women.

The results for duration of residence are mixed and mostly weak, with some exceptions. If he alone has lived in the same municipality for 6 years or more, she moves a larger share of the distance. Furthermore, individuals who have previously lived in their partner's municipality move a larger share of the distance, on average. Intuitively, these individuals may be more willing to move towards their partner, as they potentially still have a network in their partner's locality. If the woman alone is a native to Denmark or both partners are, the woman's share in the distance moved is smaller than when both partners are immigrants. It is possible that immigrant status, here, is an indicator of more traditional gender norms than are dominant among the native population of Denmark.

Last, both models include variables about each partner's municipality of origin. A higher population density and average income in the municipality lower one's share in the distance moved. Densely populated (i.e., urbanised) areas may be more attractive for couples as a location to live together because of the greater availability of jobs for both partners, in addition to amenities and housing. A higher average income in a municipality may be seen as indicative of the quality and desirability of local housing and the living environment.

4.5 | Additional analyses

We performed sensitivity analyses for the distance threshold used to identify long-distance couples and simultaneously define migration. These analyses show very similar results for couples living 80 or 100 km apart compared with 60 km, although p -values are higher because the population is smaller. Furthermore, it seems that no significant bias is caused by misclassifications of young people and

students co-residing with a roommate or friend as couples. Age and being a student are controlled for in our models. Still, we ran individual- and couple-level analyses (models 2 and 3) selecting only those aged 30+ and non-students. Resulting from the smaller population, the *p*-values are higher, but the results are otherwise similar. Last, because some individuals contribute more than one co-residence event to our data set, we performed a sensitivity check selecting only the first co-residence event observed since 2009 separately for women and men; these results are virtually the same as our overall results.

5 | DISCUSSION AND CONCLUSION

When long-distance couples decide to live together, one or both partners will need to migrate and sever ties to their current location. In this paper, we examined the influence of local ties to family on who moves furthest at the start of co-residence, he or she, exploring gender asymmetries and accounting for other relevant factors. We modelled each partner's share in the total distance moved by both partners in the year of entry into co-residence, using register data for all opposite-sex, long-distance couples in Denmark aged 18–70, who started co-residence between 1 January 2009 and 31 December 2017.

Our study reveals that on average, women bridge the larger share of the distance between partners in long-distance couples. It is more common for women to migrate towards their male partner than the other way around and women move longer distances than men at the start of co-residence. These findings are consistent with those of prior research on moving for co-residence (Brandén & Haandrikman, 2018; Schnor & Mulder, 2018).

Local ties to family have a strong influence on couples' joint mobility decisions at the start of co-residence—who moves and how far—or more specifically on the partners' relative contributions to bridging the distance between them. Most prominently, living close to a minor child or having a resident child of school-going age or younger is associated with a much smaller share of the total distance moved. Living close to a parent or sibling has a similar but smaller effect. These ties to family in one's current location increase the costs of migrating for co-residence and the benefits of staying. In contrast, those who live with a parent move, on average, a much larger share of the total distance—many will move in with their partner as they move out of their parental home. On the whole, these findings support previous research showing how local ties to family are a major determinant of (im)mobility (e.g., Clark et al., 2017; Dahl & Sorenson, 2010; Fischer & Malmberg, 2001; Spring et al., 2021). In terms of broader local ties, living close to work and/or having a business with employees are two other strong predictors of staying in place while the partner migrates.

Furthermore, within-couple differences in local ties affect couples' location decisions. Having more local ties to family than one's partner—along with other non-familial local ties—is associated with a lower share in the distance moved. Arguably, the person with more local ties has a greater interest in staying.

However, his and her local ties are not equal considerations in the couple's joint location and migration decision. The man's local ties to non-resident children, parents or siblings carry more weight than the woman's local ties to non-resident family. Similarly, his local ties to work or an owner-occupied home carry more weight than hers. Our findings corroborate the idea from Løken et al. (2013) that men's preferences for family proximity have more influence on young married couples' location decisions and supports prior research findings on couples living closer to the man's parents than to the woman's parents (Blaauboer et al., 2011; Malmberg & Petterson, 2007). At the same time, women's resident children seem to exert more influence than men's, suggesting that women may be less willing than men to disrupt the lives of their children through long-distance moving.

Our results are indicative of men's ability to exercise more bargaining power to sway the location decision in their favour. There are two main reasons why men have a bargaining advantage. First, men often have a resource advantage over women, as they tend to be older and more established in the housing and labour market (Brandén & Haandrikman, 2018). In line with relative resource theory (e.g., Blood & Wolfe, 1960), our findings indicate that having a resource advantage conveys bargaining power: the advantaged partner, in terms of income or age, moves a smaller share of the distance, on average. Second, traditional gender norms shape within-couple bargaining power and dictate that the man's interests are more important than the woman's interests in family migration decisions (see Bielby & Bielby, 1992). Indeed, our finding that men's local ties carry more weight than women's ties—controlling for relative resource differences—is indicative of this male dominance. Our findings add to and are in line with the family migration literature, which shows that the migration of couple households is typically driven by and more favourable to men than to women (literature reviewed by Cooke, 2008b).

While the population register provided us with rich data on the entire population of Denmark, the data have some limitations. To start, unmarried cohabiting couples are identified based on a set of assumptions and some degree of misclassification is likely, particularly among students, who commonly share housing. Further, we cannot be certain that someone's motive for migration was to start co-residence. It is possible, for example, that during the year, someone migrated for work-related reasons, started a relationship after migrating, and then entered co-residence with their new partner. Also, as we use yearly data and do not account for multiple moves within 1 year, we cannot identify couples who moved on to a new home after they initially entered co-residence, all within the same year. Any distance between the addresses of 1 January of year *t* and *t* + 1 is assumed to be the result of one single move. As a result, it may be that we somewhat overestimated the average distance of moving for co-residence.

Another limitation is that the data do not contain information about the frequency of contact between family members, nor about the residential arrangements for children of separated parents. Even though previous research in the Netherlands has shown that the registered address of children of separated

parents corresponds by and large to their main place of residence (van der Wiel & Kooiman, 2019), there will be some children whose registered address incorrectly identifies which parent they live with, as well as a significant number of children who live half the time with each parent. Around 20% of post-divorce families in the Netherlands (Poortman & van Gaalen, 2017) and around 37% in Denmark have a shared residence arrangement for their children (Heide Ottosen et al., 2018). Last, the straight-line distance between locations might not always accurately reflect the travel distance, particularly around the islands of Denmark.

Notwithstanding these limitations, our results clearly point up the importance of family ties in the context of migration for co-residence. Moreover, traditional gender patterns and asymmetries seem to play a role not only in the migration of households, but also migration to form a joint household. We encourage further research on the topic of migration for co-residence, as there is still limited scientific understanding of couples' migration decision-making processes. In particular, it would be interesting to examine how couples bargain over where to live together and explore how housing quality and potential employment consequences influence these decisions. It would also be valuable to investigate how our findings apply in other contexts, for example, countries with greater gender inequalities and different mobility patterns. Finally, we encourage future migration research to move beyond a focus on households to include non-resident family members.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from Statistics Denmark. Restrictions apply to the availability of these data, which were used under license for this study.

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REFERENCES

Andersen, H. T., & Nørgaard, H. (2018). *Bosætning og flyttemønstre i danmark – en oversigt [settlement and mobility patterns in Denmark–*

An overview]. Djøf forlag. https://www.djoef-forlag.dk/openaccess/oep/files/2018/4_2018/4_2018_3.pdf

- Åström, J., & Westerlund, O. (2009). *Sex and migration: Who is the tied mover?* Umeå Economic Studies 787. Umeå University, Department of Economics.
- Bailey, A. J., Blake, M. K., & Cooke, T. J. (2004). Migration, care, and the linked lives of dual-earner households. *Environment and Planning A: Economy and Space*, 36(9), 1617–1632.
- Bengtson, V. L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal of Marriage and Family*, 63, 1–16.
- Bernard, A. (2017). Levels and patterns of internal migration in Europe: A cohort perspective. *Population Studies*, 71(3), 293–311.
- Bernard, A., Bell, M., & Charles-Edwards, E. (2014). Life-course transitions and the age profile of internal migration. *Population and Development Review*, 40(2), 213–239.
- Bielby, W. T., & Bielby, D. D. (1992). I will follow him: Family ties, gender-role beliefs, and reluctance to relocate for a better job. *American Journal of Sociology*, 97(5), 1241–1267.
- Blaauboer, M., Mulder, C. H., & Zorlu, A. (2011). Distances between couples and the man's and woman's parents. *Population, Space and Place*, 17(5), 597–610.
- Blood, R. O., & Wolfe, D. M. (1960). *Husbands and wives: The dynamics of married living*. National Council of Family Relations.
- Boyle, P., Cooke, T. J., Halfacree, K., & Smith, D. (2001). A cross-national comparison of the impact of family migration on women's employment status. *Demography*, 38(2), 201–213.
- Brandén, M. (2013). Couples' education and regional mobility—The importance of occupation, income and gender. *Population, Space and Place*, 19(5), 522–536.
- Brandén, M., & Haandrikman, K. (2018). Who moves to whom? Gender differences in the distance moved to a shared residence. *European Journal of Population*, 35(3), 435–458.
- Browne, W. J., Goldstein, H., & Rasbash, J. (2001). Multiple membership multiple classification (MMMC) models. *Statistical Modelling*, 1(2), 103–124.
- Cefalo, R., Boczy, T., Kazepov, Y., Parma, A., Cordini, M., & Ranci, C. (2020). *Inequality, urbanization and territorial cohesion: Developing the European social model of economic growth and democratic capacity*. COHSMO Policy briefing paper. <https://cordis.europa.eu/project/id/727058/results>
- Clark, W. A. V., Duque-Calvache, R., & Palomares-Linares, I. (2017). Place attachment and the decision to stay in the neighbourhood. *Population, Space and Place*, 23(2), e2001.
- Compton, J., & Pollak, R. A. (2009). *Proximity and coresidence of adult children and their parents: Description and correlates*. Michigan Retirement Research Center Working Paper No. 2009-215. University of Michigan. <https://ssrn.com/abstract=1513453>
- Cooke, T. J. (2003). Family migration and the relative earnings of husbands and wives. *Annals of the Association of American Geographers*, 93(2), 338–349.
- Cooke, T. J. (2008a). Gender role beliefs and family migration. *Population, Space and Place*, 14(3), 163–175.
- Cooke, T. J. (2008b). Migration in a family way. *Population, Space and Place*, 14(4), 255–265.
- Cooke, T. J. (2013). All tied up: Tied staying and tied migration within the United States, 1997 to 2007. *Demographic research*, 29(30), 817–836.
- Cox, D. (2003). Private transfers within the family: Mothers, fathers, sons and daughters. In A. Munnell & A. Sunden (Eds.). *Death and dollars: The role of gifts and bequests in America* (pp. 168–209). Brookings Institution Press.
- Dahl, M. S., & Sorenson, O. (2010). The social attachment to place. *Social Forces*, 89(2), 633–658.
- DaVanzo, J. (1981). Repeat migration, information costs, and location-specific capital. *Population and Environment*, 4(1), 45–73.

- Eurofound & Eige. (2021). *Upward convergence in gender equality: How close is the union of equality?* Publications Office of the European Union. <https://europa.eu/ltM69Dgr>
- Eurostat, & Statistics Denmark. (1995). *Statistics on persons in Denmark. A register-based statistical system.* Eurostat.
- Faggian, A., Corcoran, J., & Partridge, M. (2015). Interregional migration analysis. In C. Karlsson, M. Andersson & T. Norman (Eds.). *Handbook in the research of methods and applications in economic geography* (pp. 468–490). Edward Elgar Publishing.
- Fielding, A., & Goldstein, H. (2006). *Cross-classified and multiple membership structures in multilevel models: An introduction and review.* Research Report RR791. Department for Education and Skills. <http://www.bristol.ac.uk/media-library/sites/cmm/migrated/documents/cross-classified-review.pdf>
- Fingerman, K. L., Huo, M., & Birditt, K. S. (2020). Mothers, fathers, daughters, and sons: Gender differences in adults' intergenerational ties. *Journal of Family Issues*, 41(9), 1597–1625.
- Fischer, P. A., & Malmberg, G. (2001). Settled people don't move: On life course and (im-)mobility in Sweden. *International Journal of Population Geography*, 7(5), 357–371.
- Haandrikman, K. (2019). Partner choice in Sweden: How distance still matters. *Environment and Planning A: Economy and Space*, 51(2), 440–460.
- Heide Ottosen, M., Andreasen, A. G., Dahl, K. M., Hestbæk, A., Lausten, M., & Boe Rayce, S. (2018). *Børn og unge i Danmark – velfærd og trivsel 2018 [Children and young people in Denmark – welfare and well-being 2018].* VIVE - The Danish National Centre for Social Research. <https://www.vive.dk/media/pure/10762/2240313>
- Huff, J. O., & Clark, W. A. V. (1978). Cumulative stress and cumulative inertia: A behavioral model of the decision to move. *Environment and Planning A: Economy and Space*, 10(10), 1101–1119.
- Knijf, T. C., & Liefbroer, A. C. (2006). More kin than kind: Instrumental support in families. In P. A. Dykstra, M. Kalmijn, T. C. Knijf, A. Komter, A. C. Liefbroer & C. H. Mulder (Eds.). *Family solidarity in the Netherlands (population studies)* (pp. 89–105). Dutch University Press.
- Kolk, M. (2017). A life-course analysis of geographical distance to siblings, parents, and grandparents in Sweden. *Population, Space and Place*, 23(3), e2020.
- Krapf, S., Mulder, C. H., & Wagner, M. (2021). The transition to a coresidential partnership—Who moves and who has the partner move in? *Population Research and Policy Review*, 41, 757–797.
- Kupiszewski, M., Illeries, S., Durham, H., & Rees, P. (2001). *Internal migration and regional population dynamics in Europe: Denmark case study.* Working paper. School of Geography, University of Leeds.
- Lundholm, E. (2007). Are movers still the same? Characteristics of interregional migrants in Sweden 1970–2001. *Tijdschrift Voor Economische en Sociale Geografie*, 98(3), 336–348.
- Løken, K. V., Lommerud, K. E., & Lundberg, S. (2013). Your place or mine? On the residence choice of young couples in Norway. *Demography*, 50(1), 285–310.
- Malmberg, G., & Pettersson, A. (2007). Distance to old parents: Analyses of Swedish register data. *Demographic research*, 56(23), 679–704.
- McKinnish, T. (2008). Spousal mobility and earnings. *Demography*, 45(4), 829–849.
- Mincer, J. (1978). Family migration decisions. *Journal of Political Economy*, 86(5), 749–773.
- Mulder, C. H. (2018). Putting family centre stage: Ties to nonresident family, internal migration, and immobility. *Demographic research*, 39(43), 1151–1180.
- Mulder, C. H., & Kalmijn, M. (2006). Geographical distances between family members. *Family solidarity in the Netherlands*, 43–61.
- Mulder, C. H., ten Hengel, B., Latten, J., & Das, M. (2012). Relative resources and moving from the joint home around divorce. *Journal of Housing and the Built Environment*, 27(2), 153–168.
- Mulder, C. H., & Malmberg, G. (2014). Local ties and family migration. *Environment & Planning A*, 46(9), 2195–2211.
- Mulder, C. H., & Wagner, M. (2010). Union dissolution and mobility: Who moves from the family home after separation? *Journal of Marriage and Family*, 72(5), 1263–1273.
- Poortman, A. R., & van Gaalen, R. (2017). Shared residence after separation: A review and new findings from the Netherlands. *Family Court Review*, 55(4), 531–544.
- Rossi, A. S., & Rossi, P. H. (1990). *Of human bonding: Parent-child relations across the life course.* Routledge.
- Schnor, C., & Mulder, C. H. (2018). Your place or mine? Assortative mating and household formation. Paper presented at the *Deutsche Gesellschaft Für Demographie Conference*, Cologne.
- Smits, J., Mulder, C. H., & Hooimeijer, P. (2004). Migration of couples with non-employed and employed wives in the Netherlands: The changing effects of the partners' characteristics. *Journal of Ethnic and Migration Studies*, 30(2), 283–301.
- Spring, A., Mulder, C. H., Thomas, M. J., & Cooke, T. J. (2021). Migration after union dissolution in the United States: The role of non-resident family. *Social Science Research*, 96, 102539.
- Statistics Denmark. (2011–2019). *Befolkningens udvikling [vital statistics].* Statistics Denmark.
- Statistics Denmark. (2016). *Danmark er mindre urbaniseret end EU som helhed [Denmark is less urbanised than EU as a whole].* DST Analyse 16:9. Statistics Denmark.
- Statistics Denmark. (2018). *Børn og deres familier 2018 [children and their families 2018].* Statistics Denmark. Retrieved from <https://www.dst.dk/da/Statistik/nyheder-analyser-publ/Publikationer/VisPub?cid=31407>
- Thomas, M., Stillwell, J., & Gould, M. (2015). Modelling multilevel variations in distance moved between origins and destinations in England and Wales. *Environment and Planning A: Economy and Space*, 47(4), 996–1014.
- Thomas, M. J., Mulder, C. H., & Cooke, T. J. (2017). Linked lives and constrained spatial mobility: The case of moves related to separation among families with children. *Transactions of the Institute of British Geographers*, 42(4), 597–611.
- Thomassen, J. A. K. (2021). The roles of family and friends in the immobility decisions of university graduates staying in a peripheral urban area in the Netherlands. *Population, Space and Place*, 27(2), e2392.
- Thygesen, L. C., & Ersbøll, A. K. (2014). When the entire population is the sample: Strengths and limitations in register-based epidemiology. *European Journal of Epidemiology*, 29(8), 551–558.
- Vidal, S., Perales, F., Lersch, P. M., & Brandén, M. (2017). Family migration in a cross-national perspective: The importance of institutional and cultural context. *Demographic Research*, 36(10), 307–338.
- van der Wiel, R., & Kooiman, N. (2019). *Children of separated parents: Registered versus reported place of residence.* Statistics Netherlands. <https://www.cbs.nl/en-gb/background/2019/24/children-of-separated-parents>
- van der Wiel, R., Kooiman, N., & Mulder, C. H. (2021). Family complexity and parents' migration: The role of repartnering and distance to non-resident children. *European Journal of Population*, 37(4), 877–907.
- van der Wiel, R., Mulder, C. H., & Bailey, A. (2018). Pathways to commitment in living-apart-together relationships in the Netherlands: A study on satisfaction, alternatives, investments and social support. *Advances in Life Course Research*, 36, 13–22.

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