Children as family commuters: The geographical distance between two parental homes after union dissolution

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Abstract

This paper studies the increasing proportion of children living in separated households as a result of family dissolutions. From the child's perspective, the distance between the two parental homes is a time-space restriction, which affects the amount of time that can be spent with each parent. The analysis focuses on families that previously lived together, but when parents moved apart and common children are either registered in the maternal or paternal household. The analysis is based on the population register of Norway and data for 113.380 separated families were selected from the administrative register. Using the youngest common child as an indicator, 82.4% were registered with the mother and 17.6% with the father after a separation and by the end of 2012. The geographical distance between the separated parental homes is the dependent variable of the analysis. It is based on the latitude and longitude of each address, which allows *exact* measures of distances between family members. In contrast to earlier research in the field, the here proposed approach is not bounded to defined geographical units as municipalities or regions and uses longitudinal instead of cross-sectional data. Descriptive analysis show that about 80% of the separated parents live within a linear distance of 30 km and about 10% even within a liner distance of 500 meters. In average, the distance between the parental households is longer when the child is registered with the mother instead of with the father, which indicates longer distances to "absent" fathers. This finding is confirmed in preliminary results from regression analyses. In addition are family events after the separation (remarriage and childbearing) and the time since the separation associated with an increase in the distance between the separated parental households. The geographical distance is also lower when the child and/or one of the parents stay in the previously shared dwelling and when the family lived in a central municipality.

The focus of this study is the increasing proportion of children living in two separated households. This is a consequence of demographic changes, closely connected to the so called Second Demographic Transition (Lesthaeghe, 1995; van de Kaa, 1987). Firstly, the increase in divorce rates leads to a higher proportion of separated families, where children mostly switch between the two parental households. Secondly, more and more marriages are replaced by cohabitation and an increasing proportion of couples are not married when they get children. The fact that cohabitations have an even higher dissolution risk than marriages (Liefbroer and Dourleijn, 2006), reinforces the development towards separated families. As most children stay in touch with both parents after a union dissolution, these children become commuters between two parental households.

A union dissolution includes that the couple moves apart from each other. Either both former partners find a new place of living or one of them moves out of the shared dwelling. Also couples and families that do not break up, move from time to time. Such moves of intact families usually improves their housing situation, as the new dwelling or the new neighbourhood is in most cases regarded as better or the economic situation of the household might improve due to a new employment. The situation is different after a union dissolution. At least one partner leaves the earlier shared dwelling and the new housing is often smaller. From the perspective of the child, moving to a different neighbourhood might be perceived as an additional strain in a time of instability in the family.

Not only the type of the new dwelling(s), but also the geographical location of the parents after the dissolution, has consequences. The distance between the two households is a time-space restriction, which affects how dissolved families can organize their future relationship. To enable children to share regularly and reasonable time with both parents after dissolution, it is advantageous that the geographical distance between the parents is not too long.

Limitations of previous studies in this field are related to how distances between family members are measured. This is usually based on geographical units, such as municipalities or other administrative units (Kalil et al., 2011). In some surveys, respondents were asked about travel time between the different

households, but such subjective evaluations are connected with rather high uncertainty and response rates in such surveys are often low.

One novel contribution of the here presented study is the use of detailed information on residency of the total population provided by administrative registers in Norway. Based on the longitudinal and latitudinal coordinate of all individuals' households, the exact distance between the two separated parental homes can be calculated. Applying such statistical methods for spatial data, the study will provide better insight into moving patterns of parents and their children after a union dissolution. The focus of this preliminary draft lies on the following four research questions:

1. How far apart from each other do parents' move after separation?
2. Does the geographical difference between the two households depend on in which household (mother's or father's) the children are registered?
3. How is the distance between the two households related to the time since the dissolution and new family events after the dissolution?
4. Are other background characteristics of the parents and the children associated with the geographical distance after a union dissolution?

Background

Spatial analysis have gained more attention in family demography in recent years (see for example Matthews and Parker, 2013), but most of studies including the geographical distance between family members analyse relations between adults and their elderly parents (see for example Malmberg and Petterson, 2007; Mulder and Kalmijn, 2006). In research on the consequence of union dissolutions, geographical distance between the separated parents and their children has gained less attention so far. If geographic measures are included, they are rather rough and restricted to specific geographical units. For example, Kalil et al. (2011) use a measure of whether the father and child live in the same economic region. The main problem of such an approach is, that two persons can geographically live very close to each other, but nevertheless be treated as living "far away" form each other. This is the case when for example the father and a child live close to each side of the border line of a region or another defined geographical unit. In another case, two persons can be treated as living closely together as they live within the same geographical unit, but in

fact the geographical distance is rather long as they live on opposite sides of this geographical unit (e.g. region or municipality).

Results from a Norwegian survey directed to separated families indicate that the regular contact between children and non-resident parents decreases with increasing geographical distance (Kitterød, 2006). A longer distance to children living with the mother reduces the daily contact between the father and the children. Non-resident fathers living in walking distance to their children, report hat they shared over 11 days with their child during the last month. If the travelling distance increases, the number of shared days decreases. Non-resident fathers with a travel distance of 2.5 hours or more report only slightly more than 3 shared days during the last month (Kitterød, 2006).

Unfortunately, surveys directed towards separated families often have a small sample size, a comparatively low response rate, and it can be assumed that parents with relatively good relations after the break-up are overrepresented. In addition, the rather strong societal norms connected to the parent-child relation might lead to biased and more positive answers. This becomes evident, when answers from the mother and the father of the same children are compared with each other and do not match. For example can both parents state that they have the main responsibility for the same child (Sætre, 2004).

A study from Sweden (Stjernström and Strömgren, 2012) is based on administrative register data and focuses directly on the geographical distance between children and absent parents. In this study households are counted as separated households if they are not located within the same geographical grid of $100m^2$. Stjernström and Strömgren (2012) compare cross sectional data from 1990, 1995, 2000 and 2005 and find an increasing number of children not living in a traditional nuclear family setting (increase from 22% in 1995 to 27.5% in 2005). As union dissolutions occur usually not directly after the birth of a common child, they find that most newborn life with both parents (over 90%), but that this share goes down to less then 60% when children are 17 years old in 2005 (Stjernström and Strömgren, 2012). Furthermore they find that more than 75% of all so called "absent parents" (e.g. the parent that is not registered in the same household as the child) live within a radius of 50 km of their children and less then 10% have to pass more than 250 km to reach the other parental home.

According to their results, the age of the child seems to be crucial: the older the child, the longer is the distance between the two parental homes. This might indicate that especially parents with young children find it important to keep the distance between the two households relatively short. But it is also possible, that it is rather the time since the break-up that affects the geographical distance. Former couples with older children might have been separated for a longer time and moved to a new dwelling for a second or third time. Stjernstöm and Strömgren (2012) did not take into account the time since the separation. However, they include measures if the parents married (again) or had another child after the break-up. Their results indicate that such subsequent family events after the separation are associated with a higher geographical distance between the two households (Stjernström and Strömgren, 2012). It has to be noted, that they also include roughly 10% of single parents (mostly mothers) that never lived together with the other parent. Most likely, these originally single parents have more often sole custody for their children and the child has less or even no contact to the non-resident parent. It can be assumed, that the geographical distance between such parents is higher than between parents that lived together with their children previously. Including both groups of parents may therefore lead to biased results. In addition, the type of the former co-residential union (cohabitation or marriage) may also be associated with the geographical distance between the former partners.

Approach, data and methods

The here presented study is based on administrative register data from Norway, covering the entire resident population. The aim of the study is to investigate the geographical distance between separated families that earlier lived together. Such parents were derived from the population register in several steps. Firstly, all mothers with at least one child aged less than 18 years by the end of 2012 were selected from the population register (N = 654.186). Secondly, cases with missing data (e.g. the father could not be identified (6%), missing address data) and when the father, the mother or the child was emigrated or dead by the end of 2012, were sorted out. Finally, based on data from the "Ground parcel, address and building register" (GAB) indicating the exact dwelling number of each resident for each year, separated couples that previously lived together

with their child could be selected. The final dataset consists of 113.380 mothers, which lived separated from the father of their common children by the end of 2012. When the separated parents have more than one child, the youngest common child is used as an indicator. This child had to be registered either in the household of the mother (82.4%) or the father (17.6%) by the end of 2012. It has to be noted, that a child can only be registered in one household after the separation of the parents, even when the child lives equally with both parents (i.e. shared residence and/or shared custody).

The GAB-register includes also the exact longitudinal and latitudinal coordinate of each household by the end of 2012. This was used to calculate the exact geographical distance (linear distance) between the two separated parental homes. The linear distance between the two households serves as the dependent variable in the analysis. Several models, with different categorizations of the dependent distance variable, were calculated. Based on longitudinal data form the population register and the GAB, the following independent variables were constructed and included in the analyses:

1. Household where the child is registered by the end of 2012, which is either the maternal or paternal household
2. A dummy variable, indicating if the child was registered always with the same parent after the separation or not (e.g. moved from the father to the mother after the dissolution)
3. A categorical variable if one parent and eventually the child lives in the same dwelling as the family before the separation or if all family members have moved from this previously shared address.
4. The age of (i) the mother, (ii) the father and (iii) the youngest common child by the end of 2012
5. The sex of the youngest common child
6. The years since the separation (between 1 to 17 years)
7. Two dummy variables indicating if the father or the mother got another child with another partner after the separation (new half-sibling to the child)
8. Three categorical variables indicating the civil status of the parents before the separation (married with each other or not) and the civil status of the

separated parents by the end of 2012 (married with another person, separated from another person, no new spouse registered)

9. A categorical variable indicating if one or both parents have an immigration background (e.g. one or both of their parents are not born in Norway).

10. A ordinal variable with four levels measuring the centrality of the municipality where the family lived before the separation

In a first step, the distribution of the geographical distance by the independent variables will be described. In a second step, the association between the independent variables and the geographical distance between the parental households is tested in different multivariate models.

Compared to other European countries, Norway is a country with rather long geographical distances. On the main land, the longest straight line distance is over 1700 km. Nevertheless, the here presented results show that separated parents usually live quite close to each other. The mean distance between the parental households is 53.6 km in this sample (56.0 km when registered with the mother and 42.7 km when registered with the father), but the variance is very high (from a few meters to over 1.700 km). Figure 1 gives a more detailed overview, by displaying percentiles (10th to 80th) for the distance between the separated households (for all couples and by the household where the child is registered).

Figure 1. Distance between separated households
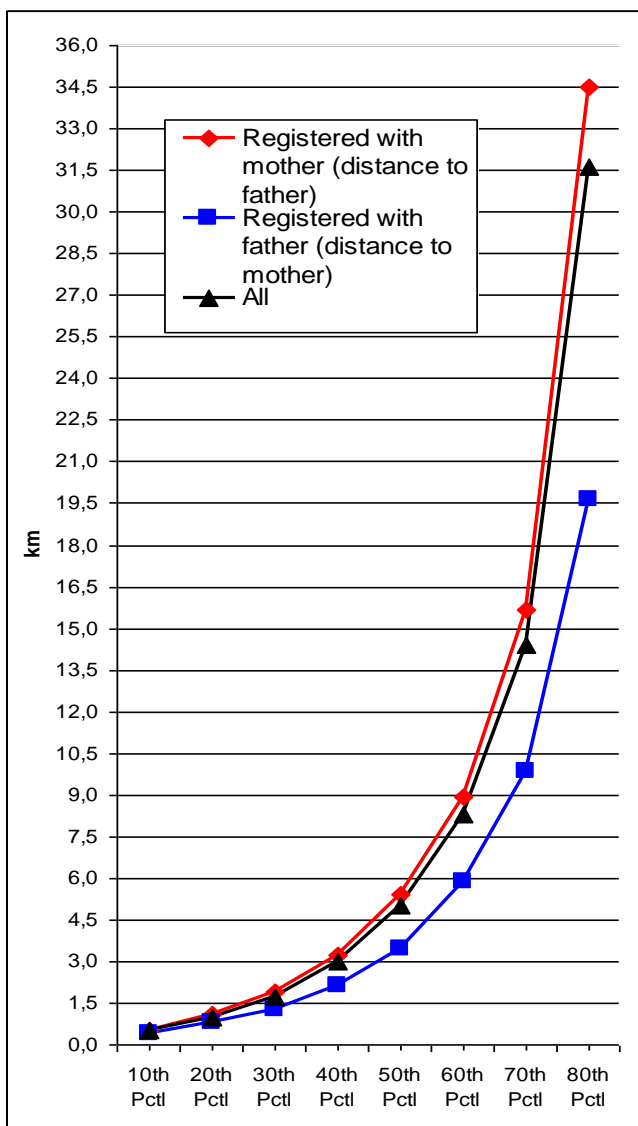
The Figure shows that 10% of the separated households are situated within a line distance of 500 meters and 80% of the separated parents live within a radius of less than 32 km. Comparing the red (youngest child is registered with the mother) with the blue line (youngest child is registered with the father) shows that the distance to a non-resident father is in average higher than the distance to a non-resident mother. Mothers that do not share the address with their child live often very close to their child (over 80% live within a radius of less than 20 km). Also the distance between a separated father and the child is in most cases quite short, but still longer in average. The value for the 90th percentile is 108.3 km for all

respondents (70.4 km if registered with the father and 117.7 km if registered with the mother). Table A1 in the Appendix shows that about 8% of the children that are registered with the father, live more than 100 km away from their mother. 11% of the children registered with the mother are in the same distance category.

These descriptive results indicate that the geographical distance between the two households depend on in which household the child is registered. In most cases children are registered in the same household as the mother after a separation (82.4%). Again, the registration in a household does not indicate how much time the child shares with each parent and which custody agreements the parents made. But it can be assumed that a parent who is registered together with the child spends at least half of the time with the child and has either the main custody or at least shared custody (not less rights than the other parent).

Based on the available data, it is possible to analyse how the time since the separation and new family events after the separation are associated with the geographical distance between the two households. Table 1 provides a simple descriptive overview for these variables. The dependent distance variable is split up in the 10th percentile, the 1st quartile, the median and the 3rd quartile for each subgroup.

In both groups (registered with the mother or with the father) the distance to the other parents increases with the time since the separation. Table 1 shows also that the distance between the two parental homes increases when one or both of the parents find a new spouse or get additional children with another partner (e.g. half-siblings for the new children).

Table 1. Distance between separated households by time since separation and family events after separation

	Child is registered with mother (Distance to father)					Child is registered with father (Distance to mother)				
	10th pctl	25th pctl	Median	75th pctl	%	10th pctl	25th pctl	Median	75th pctl	%
Years since separation										
1 year	0,4	1,0	3,1	10,0	9%	0,4	0,9	2,5	7,8	14%
2-4 years	0,4	1,1	3,7	13,4	26%	0,4	0,8	2,4	8,2	29%
5-7 years	0,5	1,3	4,8	20,0	21%	0,4	0,9	3,1	13,0	22%
8-10 years	0,6	1,6	6,3	27,4	19%	0,4	1,1	4,4	18,5	17%
11 years or more	0,8	2,7	10,2	48,2	24%	0,7	2,0	9,0	45,8	18%
Mother's marital status by the end of 2012										
No (new) husband	0,5	1,3	4,8	19,2	82%	0,4	0,9	3,1	11,5	81%
New husband	0,8	2,6	10,1	45,0	13%	0,5	1,4	6,0	24,9	13%
Separated again	0,6	1,7	6,7	30,6	5%	0,5	1,6	6,6	28,5	6%
Mother got another child with a new partner										
No	0,5	1,3	4,7	18,9	83%	0,4	1,0	3,1	11,7	85%
Yes	0,9	2,8	10,5	44,7	17%	0,6	1,5	6,8	29,9	15%
Father's marital status by the end of 2012										
No (new) wife	0,5	1,3	4,7	18,5	78%	0,4	1,0	3,1	11,5	84%
New wife	0,8	2,3	9,2	42,1	15%	0,6	1,6	6,7	32,4	12%
Separated again	0,7	2,1	8,3	40,9	7%	0,5	1,4	5,7	27,0	4%
Father got another child with a new partner										
No	0,5	1,3	4,7	18,5	80%	0,4	1,0	3,1	11,5	85%
Yes	0,8	2,5	9,7	45,1	20%	0,6	1,7	7,1	36,8	15%
All	0.5	1.4	5.4	22.3	100%	0.4	1.0	3.5	13.3	100%
N			93 386					19 994		

To analyse the association between the geographical distance between the parental households and the different independent variables, the results of 9 regression models are presented. In Table 2 the exact linear distance serves as the dependent variable in linear regression models. In the Model 1 the whole selected sample is included, while Model 2 includes those children that are registered with the mother and Model 3 those that are registered with the father by the end of 2012. The other regression models focus on the groups on the lower and upper end of the distance variable. In Table 3 the dependent variable differs between parental households situated very close to each other (within a radius of 500 meters) vs. all other cases. In Table 4 the dependent variable differs between parental households with a geographical distance of at least 100 km versus all other cases. For both cases logistic regression models are applied and again three models are included (Model 1 for all, Model 2 when registered with the mother and Model 3 when registered with the father).

In all three Tables, the first Model includes all separated families. The first independent variable of these models measures if there is a significant association between the registered household of the child and the distance variable. The results confirm that the distance between the two households is higher when the child is registered with the mother and not with the father (Table 2). In line with this is the likelihood to life close to the other parent (within 500 meters) higher when the child is registered with the father (Table 3) and the likelihood to life relatively far away (more than 100 km) is higher when the child is registered with the mother (Table 4). In other words: if the father is the absent parent, he lives in average further away than a mother that is not registered in the same household as her child.

Table 2. Parameter estimates for distance between parents, multiple regression models

	Model 1 Distance btw. parents	Model 2 Distance to father	Model 3 Distance to mother
Intercept	39.00***	23.03***	18.68*
Registered with the father (Ref. *with the mother*)	-13.85***		
Years since separation	3.10***	3.42***	1.35***
Civil status of mother 12/2012 (Ref. *no new spouse*)			
New husband	4.83**	5.53**	1.81
Separated again	6.80**	5.04*	14.46**
Mother child w. another men (Ref. *no*)	3.47*	4.52**	-2.13
Civil status of father 12/2012 (Ref. *no new spouse*)			
New wife	8.94***	10.01***	3.10
Separated again	16.80***	17.69***	9.09
Father child w. another women (Ref. *no*)	9.80***	8.89***	15.56***
Mother's age 12/2012	-0.05	0.02	-0.40
Father's age 12/2012	0.24*	0.30*	-0.01
Parents married before separation (Ref. *not married*)	-1.78	-1.49	-1.60
Immigration background of parents (Ref. *no*)			
Father w. immigration backgr.	6.26**	8.26***	-6.86
Mother w. immigration backgr.	4.45*	4,84*	3.26
Both parents w. immigration backgr.	-0.02	0.23	-2.85
Child moved between parental households (Ref. *no*)	13.20***	7.42**	26.82***
Same dwelling as before separation (Ref. *no*)			
Mother and child	-28.07***	-28.01***	
Father and child	-21.16***		-19.86***
Only mother	-31.27***		-32.11***
Only father	-36.64***	-36.19***	
Centrality of municipality before separation (Ref. *central*)			
Least central	69.54**	70.66***	64.48***
Less central	53.20***	55.73***	41.26***
Quite central	11.68***	12.43***	8.21**
Age of youngest child 12/2012	-0.65**	-1.18***	1.63***
Sex of youngest child	1.07	0.82	2.02
N / DF	113 380 / 24	93 386 / 21	19 994 / 21
Adjusted R^2	0.04	0.04	0.05

*** $p < 0.0001$, ** $p < 0.01$, *$p < 0.05$

Table 3. Odds ratio for short distance (≤ 500 m) between households, logistic regression models

	Model 1: Short distance btw. parents	Model 2: Short distance to father	Model 3: Short distance to mother
Intercept	-3.56***	3.20***	-2.46***
Registered with the father (Ref. *with the mother*)	1.52***		
Years since separation	0.97***	0.96***	1.01
Civil status of mother 12/2012 (Ref. *no new spouse*)			
New husband	0.83***	0.83***	0.85*
Separated again	0.83***	0.84**	0.77*
Mother child w. another men (Ref. *no*)	0.88**	0.85**	0.98
Civil status of father 12/2012 (Ref. *no new spouse*)			
New wife	0.76***	0.75***	0.77**
Separated again	0.76***	0.74***	0.86
Father child w. another women (Ref. *no*)	0.87***	0.84***	1.01
Mother's age 12/2012	1.03***	1.03***	1.04***
Father's age 12/2012	1.00	1.01*	0.99
Parents married before separation (Ref. *not married*)	1.02	1.01	1.06
Immigration background of parents (Ref. *no*)			
Father w. immigration backgr.	1.00	0.96	1.19*
Mother w. immigration backgr.	0.94	0.93	0.90
Both parents w. immigration backgr.	0.69***	0.69***	0.70**
Child moved between parental households (Ref. *no*)	0.87***	0.98	0.65***
Same dwelling as before separation (Ref. *no*)			
Mother and child	1.58***	1.56***	
Father and child	1.30***		1.37***
Only mother	1.73***		1.87***
Only father	2.18***	2.13***	
Centrality of municipality before separation (Ref. *central*)			
Least central	0.82***	0.83***	0.76**
Less central	0.86**	0.85**	0.90
Quite central	0.87***	0.86***	0.90
Age of youngest child 12/2012	0.98***	0.99**	0.94***
Sex of youngest child	0.97	0.96	0.99
N / % living close	113 380 / 10%	93 386 / 9%	19 994 / 12%

*** $p < 0.0001$, ** $p < 0.01$, *$p < 0.05$

Table 4. Odds ratio for long distance (≥ 100 km) between households, logistic regression models

	Model 1: Short distance btw. parents	Model 2: Short distance to father	Model 3: Short distance to mother
Intercept	-2.46***	-2.78***	-3.39***
Registered with the father (Ref. *with the mother*)	0.72***		
Years since separation	1.08***	1.08***	1.04**
Civil status of mother 12/2012 (Ref. *no new spouse*)			
New husband	1.11**	1.10**	1.14
Separated again	1.15**	1.08	1.53***
Mother child w. another men (Ref. *no*)	1.08**	1.08**	1.04
Civil status of father 12/2012 (Ref. *no new spouse*)			
New wife	1.22***	1.23***	1.17*
Separated again	1.43***	1.43***	1.42**
Father child w. another women (Ref. *no*)	1.20***	1.19***	1.31**
Mother's age 12/2012	1.00	1.00	0.99
Father's age 12/2012	1.00	1.00	1.00
Parents married before separation (Ref. *not married*)	1.01	1.01	1.04
Immigration background of parents (Ref. *no*)			
Father w. immigration backgr.	1.18***	1.20***	0.95
Mother w. immigration backgr.	1.09*	1.08	1.17
Both parents w. immigration backgr.	1.07	1.06	0.99
Child moved between parental households (Ref. *no*)	1.23***	1.10*	1.88***
Same dwelling as before separation (Ref. *no*)			
Mother and child	0.48***	0.47***	
Father and child	0.51***		0.57***
Only mother	0.29***		0.30***
Only father	0.40***	0.40***	
Centrality of municipality before separation (Ref. *central*)			
Least central	3.50***	3.46***	3.79***
Less central	2.51***	2.46***	2.74***
Quite central	1.50***	1.50***	1.52***
Age of youngest child 12/2012	0.97***	0.96***	1.05***
Sex of youngest child	1.04*	1.05	1.04
N / % living close	113 380 / 11%	93 386 / 11%	19 994 / 8%

*** $p < 0.0001$, ** $p < 0.01$, *$p < 0.05$

The variable measuring the time since the separation (in years) has almost in all models a similar and highly significant effect. As already visible in the descriptive analyses (Table 1), is an increase in time since the separation associated with a longer distance between the households (Table 2). This pattern is confirmed in the logistic regression models. Couples that separated from each other several years ago are less likely to live close by (Table 3) and more likely to live more than 100 km from each other. The only exception from this pattern is to be found in the Model 3 of Table 2 (living close). If the mother is the absent parent, the time since separation does not minimize the risk for a short distance. Also the age of the youngest child (which increases parallel with the time since separation) is in most models significantly associated with the distance, but interestingly the direction of this association differs in some cases. Results from Table 2 indicate, that a higher age is associated with a longer distance if the child is registered with the father (i.e. increasing distance to mother in Model 4 in Table 2), but the effect is opposite, when the child is registered with the father (i.e. decreasing distance to father with higher age of the child in Model 2 in Table 2). A similar opposite pattern is found in Table 4, analysing the likelihood for a long distance between the two households.

The models include four indicators of family events after the separation (civil status by the end of 2012 and childbearing after the separation for both parents). The general pattern is that that remarriage and additional childbearing with a new partner increases the distance between the two separated households. But the preliminary analyses indicate some differences. If the child lives with the mother and the father remarries or gets another child with a new partner, this is associated with a comparatively strong increase in the distance between the two separated households (Model 2 in each of the three Tables). But if the youngest child is registered with the father, such new family events of the father are not or less strong associated with the dependent distance variables (Model 3 in each of the three Tables). In the first case, fathers may move in connection with such family events and this increases the geographical distance. In the second case, including fathers that life together with their child from the earlier union, fathers may are more resistant to move to another place when they find a new partner. But it is also possible, that the mother "follows" if the father moves together with their common child.

In most of the models, there is no significant association between the age of the parents and the sex of the youngest child and the distance between the separated households. Also the immigrant background of the parents (one or both of their parents are not born in Norway) seems not to play an important role. One exception we find in the second models (distance to father): if the father and not the mother has an immigration background, the distance between the household seems to be longer (Model 2 in Table 2 and 4).

Finally is the distance in general shorter when at least one of the family members still lives in the originally shared dwelling (he or she has the same address as before the separation) and the child did not move between the parental households. Geographical distances are longer if the couple originally lived in less central municipalities (vs. central municipalities).

So far, these preliminary results indicate that the distance between the separated households is in average relatively short (first research question). Many separated parents live within a radius of a few kilometres, while about 10% move more than 100 km from each other after a separation. In average, the distance is shorter when the youngest child is registered with the father, indicating that "absent" mothers chose to live relatively close to their children when they are not registered in their household (second research question). The distance between the households increases over the years (third research question), but further analysis have to be undertaken to disentangle the association between the time since separation and the age of the youngest child. If one or both of the parents find a new partner or get new children after the separation, this is in general associated with an increase of the geographical distance between the parents (third research question). This association is strongest, when the child is registered with the mother and the father finds a new partner. It remains unclear if this is due to the moving of the father or the mother. To include such information on moving histories is one aim of further analyses. Furthermore, I want to investigate the possibility of including other changes in the partnership status, especially cohabitations.

It also seems promising to undertake more detailed regional analyses, as the variable measuring the centrality of the municipality is strongly associated with the dependent distance variables (fourth research question). One possibility may be to run separated models by centrality or regions or include contextual

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background variables of the municipalities, as divorce rates also vary across regions. Finally, I will investigate the possibility to calculate measurements of the travelling distance or travelling time between the separated households based on the coordinates of the registered addresses. In some cases a short linear distance may be misleading, as the geography of Norway includes many fjords and mountains (e.g. necessary to travel by boat or long detours when travelling by car). Such measurement of travelling distance or travelling time may be better indicators for the opportunity structure for shared time between the "absent" parent and his or her child than the linear geographical distance.

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Appendix

Table A1. Distance between separated households