

# Educational Inequality and Family Relationships: Influences on Contact and Proximity

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In modern society, education has become a major element of stratification and differentiation. This paper examines how educational differences *across* and *within* family relationships affect the content of the relationship, thereby focusing on proximity and contact between parents and adult children and between siblings. Hypotheses are developed about why education should matter, using theoretical arguments about preferences and constraints. The hypotheses are tested using a large new survey on family relationships in the Netherlands, the Netherlands Kinship Panel Study. Family relationships are pooled into one dataset which is analyzed using multilevel regression. The results show sharp but nonlinear educational effects on proximity and distance, although most of the educational effect on contact is indirect, via distance. Educational differences within family relationships lead to greater distances and less contact, confirming the classic mobility thesis, but the effects are generally weak and the effects on contact are indirect. Implications of the findings for the different theoretical perspectives on family relationships are discussed.

## Introduction

In modern society, education has become a major factor in the formation and development of personal relationships. This is probably most clearly reflected in the tendency of people to marry and select friends within their educational group (Smits *et al.*, 1998; Miller McPherson *et al.*, 2001; Blossfeld and Timm, 2003). Although educational homogeneity is also caused by opportunities for meeting similarly educated persons, preferences play an important role as well (Laumann *et al.*, 1994; Kalmijn and Flap, 2001). In other words, when people have a choice—when people can select their interaction partners—they tend to avoid educational differences. This raises the question of what happens when people do not have a choice. When the relationship is given, do educa-

tional differences then have a negative effect on the content of the relationship?

To address this issue, I examine one important relationship that is not chosen: the relationship between family members. I examine how family relationships are affected by educational differences across and within relationships. Does a person's level of education have an effect on the number of contacts between family members and on the geographic distance between family members? And is educational dissimilarity within relationships an impediment for contact, or are family ties strong enough to overcome such differences? These two questions will be answered by analyzing more than 25,000 relationships in a newly collected survey among 8,155 respondents in the Netherlands (Dykstra *et al.*, 2004a). I consider relationships that the respondent has with parents, children, and

siblings. These relationships are pooled into one dataset and the data are analyzed with multilevel regression models where respondents are the higher level and their family ties are the lower level.

The present study addresses a classic topic of stratification research, the link between social class and the family. One important element of this literature is the notion that family life in the working class was characterized by day-to-day contact and living in the same neighborhood. This family pattern was reminiscent of the earlier extended family and was therefore labeled as the 'modified extended family' by Litwak and others (Young and Willmott, 1957; Litwak, 1960a; Litwak, 1960b; Adams, 1968; Goldthorpe *et al.*, 1980; Greenwell and Bengtson, 1997). Similar evidence was later presented for the role of education. The higher educated live farther away from their family members than the lower educated (Rogerson *et al.*, 1993; Lawton *et al.*, 1994; Silverstein, 1995; Greenwell and Bengtson, 1997; Shelton and Grundy, 2000) and there are generally negative effects of education on contacts with parents (Spitze and Logan, 1991; Bengtson and Harootyan, 1994; Szydlak, 2000; Grundy and Shelton, 2001; Tomassini *et al.*, 2004). Determinants of sibling contact are less often studied, but the few studies that have been done show that the higher educated also have fewer sibling contacts (Verbakel and De Graaf, 2004).

A second element in this literature lies in the effect of mobility. In the early texts, it was argued that intergenerational class mobility—although attractive from an economic point of view—would have negative consequences for the social and emotional life of the mobile person (Blau, 1956; Lipset and Bendix, 1959; Kessin, 1971). One of these negative consequences was believed to lie in the domain of the family. Intergenerational mobility would create an emotional distance between children and parents so that contacts between family members would be reduced (Litwak, 1960b). This was considered of more general relevance as well because it would imply that the openness of the modern stratification system was dysfunctional for the 'modified extended family.'

Although the reasoning was simple and plausible, empirical support for the hypothesis was largely negative. Upwardly mobile persons did not have fewer or weaker contacts with their family members than their origin and destination positions would suggest (Adams, 1968; Aiken and Goldberg, 1969; Duncan, 1966; Goldthorpe *et al.*, 1980; Kessin, 1971; Kulis, 1987; Litwak, 1960b; Wharton and Thorne, 1997). More precisely, a middle class son had the same amount of contact with his working class parents, as the average of stable working

class sons and stable middle class sons. Similar negative evidence has been found for educational differences in sibling dyads (Verbakel and De Graaf, 2004).

From a theoretical point of view, it was not surprising that the thesis was abandoned. One important counterargument stated that mobility was not perceived as deviant because it was so common. If mobility is the modal experience, why would mobile persons be regarded as special and why would they feel marginal? Another and related counterargument was that most of the mobility was caused by structural forces, such as an upward shift in the occupational distribution and the expansion of higher education. If people regard their own mobility or the mobility of their children as something structural rather than as the result of individual achievement, it seems less likely that they will regard a class difference as a problem in their relationship.

There are two reasons to study the thesis again. One reason is that the increase in upward mobility has slowed down over time. In the recent era, upward mobility is less often structural in nature. In a sense, the nature of mobility has become more individual and more 'achieved,' and this implies that the social effects of mobility will now be stronger than before (Young, 1958). Another reason lies in the changing nature of family relations. Several authors have argued that social norms about family relations have become weaker and that choices regarding family contacts are increasingly being based on what individuals get out of the relationship rather than on what people feel they ought to do. This suggests that the basis for contact has shifted from obligation to choice (Lye, 1996). As a result, one would expect that educational dissimilarity will now have a stronger negative effect on parent-child relations than before.

To examine these issues, I use a large new survey in the Netherlands to analyze two types of relationships: relations between parents and adult children and relations between adult siblings. I focus on two characteristics of these relationships: face-to-face contact and proximity. There are two reasons for this focus. First, proximity and face-to-face contact are important conditions for the development of what has been called 'family solidarity' (Silverstein and Bengtson, 1997). Family solidarity is defined as the degree to which family members care for each other and it has generally been argued that support is more likely when the social and geographic distance is smaller. Face-to-face contact is also a good indirect measure of intergenerational support because it includes many forms of instrumental support that are too idiosyncratic to measure. Second, the two

indicators are most closely related to the concept of the 'modified extended family,' which was defined as frequent face-to-face contact with and close proximity to family members not living in the household (Litwak, 1960a; Litwak, 1960b). In this approach, the form of the relationship, more than its content, is the defining element, and that is why I focus on proximity and contact, rather than on more subjective evaluations of the relationship.

## Background and Hypotheses

To develop hypotheses about how educational differences within and between dyads affect contact, it is helpful to make a distinction between structural and cultural explanations of family contact (Rossi and Rossi, 1990; Klein Ikkink *et al.*, 1999). Structural explanations focus on the restrictions and opportunities that people have to maintain contact. Cultural explanations focus on the preferences that people have to maintain contact. Such preferences are based on the values that people have adopted and on the norms that they are confronted with and that they may have internalized.

This perspective is useful for developing hypotheses because educational groups differ in the preferences they have and in the constraints they face. I develop hypotheses for educational effects on contact and on proximity and make a further distinction in direct and indirect effects on contact. Effects on contact can be indirect, via proximity, and direct, holding constant proximity. Note that distance is not a pure constraint; it is partly dependent on preferences. For example, a feeling of obligation toward parents in need of help can make a person decide to move closer to one's parents. Similarly, people with little interest in their family will make migration decisions largely independent of where their family members live.

### Educational Differences Across Dyads

A first hypothesis focuses on preferences and argues that the higher educated have a different value orientation toward family issues. This hypothesis is based on the frequently made claim that the higher educated are more individualistic in their outlook: they would be more strongly oriented to individual autonomy, less likely to follow conventional norms, and more likely to use rational rather than normative reasoning about their relationships (Davis, 1982; Lesthaeghe and Meekers, 1986; Inglehart, 1997; Thornton and Young-DeMarco, 2001). It is not argued that the higher educated find family ties less important in general, it is merely

suggested that the higher educated more often use an exchange approach in their family relations. In deciding about family contact, the higher educated would be less strongly motivated by feelings of obligation and would be more strongly motivated by the emotional or practical benefits of the relationship itself. This will lead to more frequent contact among the lower educated because the lower educated will also see their family when they do not particularly enjoy these contacts.

A second argument focuses on labor market restrictions. The higher educated are typically faced with a smaller labor market than the lower educated. In addition, many lower educated jobs can be done in almost every geographic location, whereas most higher educated jobs are only available in selected areas (Litwak, 1960a; Greenwell and Bengtson, 1997; Shelton and Grundy, 2000). The carpenter, for example, can find a job near to his parents rather easily, whereas the IT manager or the university professor will have more difficulties in finding a job so close to the parental home. The nature of the higher educated job market will lead to more geographic distance in extended family relations among the higher educated (Frankel and DeWit, 1989; Rogerson *et al.*, 1993; Lawton *et al.*, 1994; Silverstein, 1995). The argument does not imply a direct educational effect on contact, it only implies an indirect effect on contact, via distance.

Can we expect differences in educational effects between parent-child and sibling relationships? When we focus on restrictions, we do not expect large differences. Geographic constraints probably play as much of a role in relations between parents and children as they do in relations with siblings. When we use the argument about social norms, differences are more likely. Because normative obligations toward family are more clearly defined for parent-child relations than for sibling relations (Cicirelli, 1994), and assuming that the effect of education works partly through its relation to norms, we may expect a stronger effect of education on parent-child relations than on sibling relations.

### Educational Differences Within Dyads

How can we expect educational dissimilarity within ties to affect the content of family relationships? Before we elaborate on the reasons for such an effect, we need to define what constitutes an effect of educational dissimilarity. The level of contact in a heterogeneous dyad can be compared to two homogeneous dyads, which suggests the possibility of defining alternative versions of a dissimilarity effect. We can speak of a 'weak' version of a

dissimilarity effect when the resulting level of contact is below the average of the two corresponding homogeneous categories and when the geographic distance is above the average. We can speak of a 'strong' dissimilarity effect when the level of contact is below the lowest of the two homogeneous categories and the distance is greater than it is in the highest homogeneous category.

A first argument which suggests a dissimilarity effect focuses on the way people come to an agreement about contact. In a mixed dyad, the preferences of the two members will differ: the lower educated member generally will have a preference for a high level of contact, whereas the higher educated member will have a preference for a low level of contact. The interests of the members differ and this creates a bargaining situation for the dyad. The outcome will then depend on the bargaining power of the two members. If they have equal power in the dyad, the solution is a compromise and the level of contact will be the average level of contact in the two homogeneous groups. There are also reasons to believe, however, that the higher educated member has more bargaining power. First, a higher level of education gives a person more resources and this may translate into more bargaining power. Second, there is an asymmetry in the bargaining situation. Having contact requires an initiative and this means that the person with the strongest preference for contact will need to take most initiatives whereas the person with the weakest preference for contact only has to respond negatively to these initiatives. Because it seems generally easier to decline an unwanted invitation than it is to get an unwanted invitation accepted, the higher educated member of the dyad will have more influence in the outcome. This means that the level of contact in a mixed dyad will be below the average of the two, which amounts to a weak dissimilarity effect.

A second argument is based on preferences and argues that people with different levels of education have fewer values and interests in common. Educational dissimilarity makes it more difficult to understand one another, it decreases the number of things people can do together, and it limits the behavioral confirmation that people can give each other (Kalmijn, 1998; Miller McPherson *et al.*, 2001). As a result, family members who differ in education will benefit less from their relationship than family members who are similar in education. A qualification is that people are also able to avoid the possible conflict of values they face in their family relationships. While this seems a plausible caveat, some attitude topics can more easily be avoided than others, depending on how relevant they are to the relationship itself. It is relatively easy for families to avoid talking about political issues, for

example, but it is more difficult for family members to avoid talking about marriage, children, or family matters themselves.

A third argument focuses on the restrictions that people face. As has already been argued in the classic stratification texts, social mobility goes hand in hand with geographic mobility (Litwak, 1960a; Blau and Duncan, 1967). The children of lower educated parents will be more likely to stay in the area if they themselves have a lower education as well. If they are upwardly mobile, they often have to move away from the area in which they were brought up to find a job that matches their education. Attending higher education itself often implies a move as well. Whether this has an enduring effect depends on whether highly educated upwardly mobile persons are more reluctant to move back to where they came from later in life. In general, however, we would expect that upwardly mobile persons live farther away from their parents, although it is doubtful whether they also live farther away compared to children and parents who are both highly educated. Hence, the geographic mobility hypothesis suggests a weak dissimilarity effect rather than a strong dissimilarity effect. Moreover, the hypothesis suggests a direct effect on proximity and an indirect effect on contact, via proximity.

What can we expect for the different types of relationships? An important difference between parent-child and sibling relations is that educational differences in the former case arise from intergenerational mobility, whereas educational differences in the latter case arise from individual differences in achievement. Because much of the educational mobility is structural, we would expect that having a lower education than your children is not always associated with a feeling of social distance. Having a lower education than your brother or sister, in contrast, is not due to structural forces, and may therefore be more salient for the relationship. We thus would expect the effect to be stronger for sibling relations than for parent-child relations. An additional argument is that social norms about parent-child relations are stronger than they are for siblings (Cicirelli, 1994). This implies that choice considerations matter more for siblings, and this also suggests a stronger dissimilarity effect in sibling relations.

## Data, Measures and Design

The data used for the present study come from a new large-scale study of family relations: the Netherlands Kinship Panel Study (NKPS). The NKPS is a nationally

representative survey among 8,155 respondents of 18–79 years of age (Dykstra *et al.*, 2004a). Interviews were held with respondents at home using CAPI-interview schedules. The overall response rate was 45 per cent, which is about average for the Netherlands (Dykstra *et al.*, 2004b). For my analyses, the data are transformed into a file where relationships are the units of analysis. I include parent–child relations where the respondent (the ‘anchor’) is the child, parent–child relations where the anchor is the parent, and sibling relationships. The number of ‘alters’ is 25,752 (8,064 parents, 5,045 children, and 12,643 siblings), and these are connected to 8,116 ‘anchors.’ I only look at alters who are older than 15 and who do not live with the anchor.

**Measures**

*Proximity:* The distance between alter and anchor measured in kilometers. For the descriptive analyses, the distances are recoded into meaningful categories.

*Quantity of face-to-face contact:* The number of times anchor and alter saw each other in the past 12 months, broken down in detailed categories. For the explanatory analyses, these are recoded into a numeric scale indicating the approximate number of times in the past 12 months. Distances and contact frequencies are logged to avoid heteroskedasticity (Silverstein, 1995; Waite and Harrison, 1992). The main focus is on face-to-face contact but I will also present some additional analyses for telephone contact.

*Education:* Respondents reported on the completed educational level of themselves and their family members. Education was recoded into five categories: primary education, lower secondary (i.e. lower general [‘mavo’] and lower vocational), higher secondary (i.e. higher general [‘havo/vwo’] and middle vocational), lower tertiary (i.e. higher vocational [hbo]), and higher tertiary (i.e. university and postgraduate training). For the regression analyses, the original detailed categories were recoded into the approximate number of years of schooling required for completing the level.

The following *control variables* are included: the sex-composition of the dyad, the average age of the two dyad members, the number of living siblings, and the number of living children. The number of siblings and children are important control variables because they are negatively correlated with education and they also have a well-known negative effect on contact frequency at the dyad level (Waite and Harrison, 1992).

**Design**

After preliminary descriptive analyses, I estimate regression models to test the hypotheses. For each anchor, at most two children, two parents, and two siblings were included in the data and many anchors have a combination of children, siblings, and parents. For that reason, a multilevel regression model is estimated in which anchors represent the higher levels and relationships are nested within anchors. The model is a GLS random intercept model. A similar approach has been used earlier to ego-centered network data (Van Duijn *et al.*, 1999). The model is defined as:

$$Y_{ij} = b_0 + b_1 \frac{1}{2}(EDU_i + EDU_{ij}) + b_2 |EDU_i - EDU_{ij}| + e_{ij}$$

where *i* refers to anchor and each *i* has multiple alters *j*. In this model, educational differences across dyads are estimated by *b*<sub>1</sub>, which is the effect of the average level of education in a dyad. The effect of educational differences within dyads is reflected in *b*<sub>2</sub>.

To interpret the *b*<sub>2</sub> effect, it is important to consider the distinction between a ‘weak’ and a ‘strong’ dissimilarity effect. To see this, we first calculate expected values for all four types of dyads:

	EDU <sub>j</sub> = 1	EDU <sub>j</sub> = 2
EDU <sub>i</sub> = 1	b <sub>0</sub> + b <sub>1</sub>	b <sub>0</sub> + 1½ b <sub>1</sub> + b <sub>2</sub>
EDU <sub>i</sub> = 2	b <sub>0</sub> + 1½ b <sub>1</sub> + b <sub>2</sub>	b <sub>0</sub> + 2 b <sub>1</sub>

We now compare the expected value for a heterogeneous dyad to the expected value of the *average* of the two homogeneous dyads:

$$b_0 + 1\frac{1}{2}b_1 + b_2 \equiv b_0 + 1\frac{1}{2}b_1$$

Hence, a weak dissimilarity effect occurs when *b*<sub>2</sub> < 0. To see if there is a strong dissimilarity effect, compare the heterogeneous dyad to the lowest value of the two homogeneous dyads (assuming *b*<sub>1</sub> < 0):

$$b_0 + 1\frac{1}{2}b_1 + b_2 \equiv b_0 + 2b_1$$

Hence, a strong effect occurs when *b*<sub>2</sub> < ½ *b*<sub>1</sub>. For the effects on distance, a weak dissimilarity effect occurs when *b*<sub>2</sub> > 0 and a strong dissimilarity effect occurs when *b*<sub>2</sub> > ½ *b*<sub>1</sub>.<sup>1</sup>

Regression models are estimated for proximity and for contact. For contact, I estimate models with and without distance. This allows me to assess whether effects of education are direct or indirect. Because contact and proximity are logged, the coefficients can be interpreted in terms of percentage change in distance or contact, per unit change in the independent variable. Because the effects on contact may not be the same for each level of contact, I also add two multilevel logistic regression models, one for the log odds of having no contact at all, and one for the log odds of having weekly contact.

## Results

### Differentials by Anchor's Education

In Table 1, we see that almost a third of the respondents live within a two-kilometer radius from their children and parents (which is more or less in the same neighborhood). In a little more than half of the parent-child relationships, there is at least weekly face-to-face contact. Contacts with siblings are less frequent than with parents, but they are still fairly common: almost one in five of the siblings see each other weekly.

The table reveals large educational differences in distance. Among primary educated respondents, 42 per cent live very close to their parents (0–2 kilometers), whereas among university educated respondents, this is only 10 per cent. Similarly, when looking at respondents who live an hour drive away or more from their parents, this increases from 9 per cent among primary educated respondents to 29 per cent among university educated respondents. The average number of kilometers increases from 17 to 56. For sibling relations, we see increasing distances with education as well, but the gradient is weaker.

There are also large educational differences in contact. Among lower secondary educated anchors—the largest lower group—we see that 63 per cent have weekly face-to-face contact with parents. Among university educated, this percentage drops to 27. Important is that the educational gradient is not simply a shift from weekly to monthly contacts: the higher educated also see their parents or children more often incidentally, which means a couple of times a year. For sibling relationships, the association with education appears to be weaker than for parent-child relations.

There are two deviations from the broadly linear pattern observed in Table 1. First, the never-contact category reveals an opposite pattern. The percentage of

anchors who never see their family members declines rather than increases with higher levels of education. A second deviation lies in primary educated children. Although the average number of contacts between parents and children increases with each lower level of education, it *decreases* at the lowest level. Together, these two tendencies lead to a substantial number of primary educated anchors who (almost) never see their parents, 12 per cent, higher than in any other category.

Table 1 also shows that the educational relationship is different for phone contact. Whereas face-to-face contact declines with each higher level of education, phone contact increases with education. The percentage with weekly or more frequent phone contact with parents increases from 39 per cent for the lower educated to 59 per cent for the university educated. This suggests that geographic distance plays an important role in the effect for face-to-face contact and also indicates that the higher educated partly compensate for the geographic restrictions they face. We should note, however, that for most persons, a phone contact will be less important in their relationship with family members than a face-to-face contact.

How do our figures compare to other countries? In Great Britain, about 50 per cent of children have weekly face-to-face contact with parents (Grundy and Shelton, 2001). In the United States, this is about 40 per cent (Lye *et al.*, 1995). When comparing to Germany, we need to combine face-to-face and phone contact. When doing this, we observe that in both the Netherlands and Germany, about 75 per cent have weekly contact (Szydluk, 2000). Hence, parent-child contacts in the Netherlands seem to be as frequent as in Great Britain and Germany and they are more frequent than in the United States.

### Differentials by Anchor's and Alter's Education

The second part of the descriptive analysis offers a two-sided view of educational differences by describing contact measures by the anchor *and* alter's level of education. For each heterogeneous combination, I calculate the expected level of proximity and contact by taking the average of the two combinations in which the education of anchor and alter are similar. Subsequently, I calculate the deviation of the observed level to the expected level. Cells containing fewer than 30 dyads are omitted.

When we look at the proximity measures for parent-child relations in Table 2, we see that in 12 of the 19 heterogeneous combinations, the deviation is positive, meaning that family members in educationally mixed

**Table 1** Face-to-face contacts and geographic distance by education of anchor respondents and type of alter

	Primary education	Lower secondary	Higher secondary	Lower tertiary	Higher tertiary	All
<i>Parent-child (anchor is child)</i>						
<i>Face-to-face contact</i>						
Never contact	12	5	4	3	3	4
Incidental contact	24	13	14	16	26	16
Monthly contact	16	19	27	37	44	29
Weekly contact	19	31	29	28	20	28
Several times a week or daily	28	32	27	16	7	23
Total	100	100	100	100	100	100
<i>Phone + contact</i>						
Never	20	12	6	5	3	7
Incidentally	24	21	17	12	11	16
Monthly	17	16	17	23	27	20
Weekly	17	27	34	36	40	33
Several times a week or daily	22	24	25	24	18	24
Total	100	100	100	100	100	100
<i>Distance</i>						
0–2 kilometers	42	41	32	22	10	29
3–19 kilometers	40	39	38	32	23	35
20–79 kilometers	9	13	19	30	37	23
80 or more kilometers	9	7	12	16	29	14
Total	100	100	100	100	100	100
Mean number of face-to-face contacts	75	84	70	48	30	62
Mean number of phone + contacts	58	67	70	67	58	67
Mean kilometers	17	18	26	36	56	30
Number of dyads	331	1712	2971	2050	1000	8064
<i>Sibling relationships</i>						
<i>Face-to-face contact</i>						
Never contact	21	12	9	8	7	10
Incidental contact	42	38	39	47	55	42
Monthly contact	19	29	30	31	28	29
Weekly contact	11	14	16	10	8	13
Several times a week or daily	7	7	7	4	3	6
Total	100	100	100	100	100	100
<i>Phone + contact</i>						
Never	25	17	12	10	6	14
Incidentally	40	39	36	39	38	38
Monthly	19	23	28	32	35	28
Weekly	12	15	16	14	16	15
Several times a week or daily	5	6	7	4	4	6
Total	100	100	100	100	100	100
<i>Distance</i>						
0–2 kilometers	26	22	19	14	10	18
3–19 kilometers	39	41	35	25	21	33
20–79 kilometers	24	25	28	37	41	30
80 or more kilometers	11	12	17	24	29	18
Total	100	100	100	100	100	100

*continued*

**Table 1** (continued)

Mean number of face-to-face contacts	23	26	26	17	15	23
Mean number of phone + contacts	19	23	26	21	22	23
Mean kilometers	28	30	37	49	57	39
Number of dyads	1144	3447	3859	2965	1228	12643

Source: Netherlands Kinship Panel Study.

Note: *n* values are somewhat lower for distances because of missing data. Phone contact includes email, letters, and so forth.

dyads live farther away from each other than expected. The remaining deviations are either zero or small and negative. The panel for siblings at the bottom of Table 2 shows an even stronger result: 9 of the 10 combinations have positive deviations. Deviations are generally small in magnitude, with the exception of the highest educational category. In other words, it is particularly the mixed dyads containing university educated who live farther away from their parents than expected. It needs to be emphasized, however, that the distance in these dyads is rarely larger than the distance in dyads of two university educated family members.

When we look at the quantity of contact for parent-child relations, Table 3 shows that of the 18 heterogeneous combinations, 13 have a negative deviation. This also points to the existence of a dissimilarity effect. Further calculations show that in only three of the combinations, the mean of the heterogeneous combination is also below the lowest mean of the two homogeneous cells. Together, these results point to the weak rather than the strong version of the dissimilarity effect. We further note that there is some asymmetry: negative deviations are somewhat greater above the diagonal (where there is upward intergenerational mobility) than below the diagonal (where there is downward mobility). The bottom panel of Table 3 shows the results for contacts in sibling relations. In 7 of the 10 combinations, the deviation of contact frequency is negative. In only one of these, the heterogeneous combination is also below the minimum of the two corresponding homogeneous combinations.

### Regression Models for All Relationships

The regression model is applied first to all types of relationships simultaneously (Table 4). In this model, the main effect of relationship type is included. We first look at the educational effects on proximity (first column). The main effect of education is strong and significant. Each additional year of schooling is associated with a 17 per cent increase in distance. Educational dissimilarities

also have a significant effect. There is a 3.8 per cent increase in geographic distance for each year increase in educational difference in the dyad. This is a non-trivial effect. The highest observed difference within a dyad is 13 years of schooling, and this implies a maximum increase in distance of  $13 \times 3.8 = 49$  per cent. Because the effect of the absolute difference is smaller than half the coefficient for the average education ( $b_2 < \frac{1}{2} b_1$ ), the effect points to a weak version of the dissimilarity effect. In other words, dissimilar dyads live farther away than the average of the homogeneous dyads, but they do not live farther away than higher educated homogeneous dyads.

In the model for face-to-face contact (second column), we see significant declines in contact frequency with higher levels of education. The coefficient implies a six per cent decline in contact frequency for each additional year of schooling. The absolute educational difference in the dyad also has a significant negative effect. For each year difference in education, the reduction in contact frequency is two per cent. This implies a maximum effect of 26 per cent. We do not see evidence for a strong version of the dissimilarity effect because  $b_2 > \frac{1}{2} b_1$ .

When we add geographic distance to the model (third column), we first see that the main effect of education disappears. In other words, educational differences in contact frequency are to a large extent due to the greater geographic distance between family members among the higher educated. Moreover, we see that the effect of educational dissimilarity almost disappears when geographic distance is added to the model. Although the effect is still negative and marginally significant, the magnitude of the effect is trivial. Hence, the educational dissimilarity effect on contact is largely due to the dissimilarity effect on proximity.

Although geographic distance plays an important role, the educational effects are not *entirely* due to the indirect effect via proximity. When we model the log odds of having weekly contact rather than the simple frequency of contact (the fourth column in Table 4), we still observe a significant educational effect. More specifically, the effect

**Table 2** Geographic distance (kilometers) by education of anchor and alter and by type of relationship

Education parent	Parent-child relationships (n = 11,628)						Deviation from average of homogeneous cells					
	Education child		Education parent		Education child		Primary education		Lower tertiary		Higher tertiary	
	Primary education	Lower secondary	Higher secondary	Primary education	Lower tertiary	Higher tertiary	Primary education	Lower secondary	Higher secondary	Primary education	Lower tertiary	Higher tertiary
Primary education	13	14	20	33	50		0	-1	0	5	13	
Lower secondary	15	17	21	31	53		5	3	-1	1	14	
Higher secondary	25	26	28	38	55		-1	0	2	3	11	
Lower tertiary	27	30	38	43	63		-	15	10	-4	11	
Higher tertiary	37	54	55	47	61							
	<b>Sibling relationships (n = 10,920)</b>						Deviation from average of homogeneous cells					
Education anchor	Education alter		Education anchor		Education alter		Primary education		Lower tertiary		Higher tertiary	
	Primary education	Lower secondary	Higher secondary	Primary education	Lower tertiary	Higher tertiary	Primary education	Lower secondary	Higher secondary	Primary education	Lower tertiary	Higher tertiary
	Primary education	Lower secondary	Higher secondary	Primary education	Lower tertiary	Higher tertiary	Primary education	Lower secondary	Higher secondary	Primary education	Lower tertiary	Higher tertiary
Primary education	25	26	34	55	62		2	2	-2	5	13	
Lower secondary	27	33	43	55	62		3	2		5	14	
Higher secondary	33	42	56	62	59		4	2		5	11	
Lower tertiary	43	60					7	17	9		11	
Higher tertiary	49											

Source: Netherlands Kinship Panel Study.  
 Note: Cells containing fewer than 30 cases omitted. Parent anchors and child anchors combined in first panel. Sibling tables are made symmetric.

**Table 3** Number of face-to-face contacts by education of anchor and alter and by type of relationship

Education parent	Parent-child relationships (n = 12,674)						Deviation from average of homogeneous cells								
	Education child			Education parent			Education child			Education parent					
	Primary education	Lower secondary	Higher secondary	Lower tertiary	Higher tertiary	Primary education	Lower secondary	Higher secondary	Lower tertiary	Higher tertiary	Primary education	Lower secondary	Higher secondary	Lower tertiary	Higher tertiary
Primary education	75	84	75	59	42	Primary education	0	3	-4	-7	0	3	-4	-7	
Lower secondary	84	93	82	55	37	Lower secondary	0	1	-17	-21	-11	1	-17	-21	
Higher secondary	61	68	69	48	30	Higher secondary	-11	-13	-11	-16	-4	-3	-11	-16	
Lower tertiary	58	64	56	50	25	Lower tertiary	-4	-8	-3	-11	-	-2	-3	-11	
Higher tertiary	90	49	43	38	23	Higher tertiary	-	-	2	-	-	-2	2	-	
Education anchor	Sibling relationships (n = 12,284)						Deviation from average of homogeneous cells								
	Education alter			Education anchor			Education alter			Education anchor					
	Primary education	Lower secondary	Higher secondary	Lower tertiary	Higher tertiary	Primary education	Lower secondary	Higher secondary	Lower tertiary	Higher tertiary	Primary education	Lower secondary	Higher secondary	Lower tertiary	Higher tertiary
Primary education	21	28	30	19	12	Primary education	1	-4	-2	-1	1	-4	-2	-1	
Lower secondary	25	25	20	15	19	Lower secondary	2	-5	-2	-	2	-5	-2	-	
Higher secondary	27	18	14	15	15	Higher secondary	-5	-6	-	-	-5	-6	-	-	
Lower tertiary	15	14	19	15	12	Lower tertiary	-5	-6	-	-	-5	-6	-	-	
Higher tertiary	18	14	19	15	12	Higher tertiary	2	-6	-	-	2	-6	-	-	

Source: Netherlands Kinship Panel Study.

Note: Cells containing fewer than 30 cases omitted. Parent anchors and child anchors combined in first panel. Sibling tables are made symmetric.

**Table 4** Multilevel regression of logged distance, logged contact frequency, and no contact on education and other independent variables

	Log distance		Log contacts		Log contacts + distance		Weekly + distance		No contact + distance	
	b	P	b	P	b	P	b	P	b	P
Type of relationship										
Child anchor with parent alter	0.000		0.000		0.000		0.000		0.000	
Parent anchor with child alter	-0.060	0.06	0.164	0.00	0.055	0.02	0.170	.04	0.928	0.00
Sibling anchor with sibling alter	0.483	0.00	-1.150	0.00	-0.978	0.00	-2.790	.00	-2.361	0.00
Educational composition										
Average education	0.160	0.00	-0.062	0.00	0.001	0.70	-0.062	.00	0.036	0.00
Absolute difference	0.037	0.00	-0.020	0.00	-0.005	0.07	-0.018	.09	0.024	0.23
Gender of dyad										
Female-female dyad (reference)	0.000		0.000		0.000		0.000		0.000	
Male-male dyad	-0.054	0.05	-0.335	0.00	-0.342	0.00	-0.918	0.00	0.599	0.00
Male-female dyad	-0.044	0.02	-0.308	0.00	-0.308	0.00	-0.864	0.00	0.585	0.00
Age of dyad	0.015	0.00	-0.020	0.00	-0.016	0.00	-0.045	0.00	0.039	0.00
Family size	-0.006	0.30	-0.035	0.00	-0.022	0.00	-0.078	0.00	-0.016	0.52
Distance (logged)										
Constant	-0.192	0.02	5.436	0.00	5.684	0.00	7.805	0.00	-7.132	0.00
Number of dyads	22543		24953		22543		24953		24953	
Number of anchors	7564		7877		7564		7877		7877	
R-square within families	0.072		0.309		0.474					
R-square between families	0.149		0.114		0.403					
Chi-square							2805		465	

Source: Netherlands Kinship Panel Study.  
 Note: Linear regression for distance and contact; logistic regression for weekly contact and no contact.

of education on the log odds of weekly contact is  $-0.06$  in a model that includes distance ( $P < 0.01$ ). Hence, even when distance is held constant, each additional year of schooling is associated with a six per cent decline in the odds of weekly family contact.

The last column presents a logistic regression model for having no contact at all. As already suggested by the descriptive tables, we find reverse effects of education. Even though the lower educated have more frequent contact with their extended family members, the lower educated also have a higher chance of having no contact with family members at all. The effect is significant and substantial in size. For each year less schooling, the odds of having no contact at all increase by 3.5 per cent ( $1 - e^{-0.036}$ ). Although these effects are substantively important, we should remember that the number of relationships that never have contact is small (four per cent). Hence, in the overall results for contact frequency, they are of little consequence.

The other effects in Table 4 also yield some interesting conclusions. We see that siblings live significantly farther away from each other than parents and children. Siblings also have significantly fewer contacts than parents and children and are more likely to have broken off contact entirely. We also see that in parent-child relationships, parents report somewhat more contact than children. As earlier studies have shown, the gender composition of the dyad is a very important factor (Rossi and Rossi, 1990). There are small effects on proximity but substantial effects on contact. Contacts are more common in all-female dyads than in both all-male dyads and in opposite-sex dyads. The difference in contact between all-male dyads and mixed dyads is not statistically significant (not reported in the table).

### Regression Models for Specific Relationships

In Table 5, I add interaction effects of each independent variable with the type of relationship. These models allow me to assess whether effects on proximity and contact are different for sibling relationships than they are for parent-child relationships. To be complete, I also include the distinction between parent-child relationships where the parents are the anchors and parent-child relationships where the children are the anchors. In most cases, one would not expect this contrast to be significant, but for some independent variables (e.g. the number of siblings), effects will differ. To save space, the logistic regression models for no contact and weekly contact are not presented.

We first focus on educational effects. The positive effect of education on geographic distance is significantly weaker for sibling relationships than for parent-child relationships. Moreover, the effect of education on contact is less negative for sibling relationships than it is for parent-child relationships (although it is still significant for sibling relationships,  $P < 0.01$ ). These findings are in line with our reasoning that social norms are more clearly defined for parent-child relations than for siblings. In addition, we see that the effect of educational dissimilarity in dyads on geographic distance is weaker for sibling relations. Similarly, the effect of dissimilarity is less negative for contacts in sibling relationships than for contacts in parent-child relationships. Both effects are still significant for siblings, however (not reported in the table). We expected the influence of educational differences in dyads to be *more* salient for sibling relationships, so these results are contrary to our expectations.

Another important result is that the effect of education can be explained by geographic distance effects in all three types of relationships. The effect of distance on contact itself varies, however. Because both distance and contact are logged, the coefficients can be interpreted as elasticities (the per cent change in contact for each per cent change in distance). The distance-elasticity of contact is  $b = -0.51$  for parent-child relations and  $b = -0.51 + 0.12 = -0.39$  for sibling relations. In other words, contacts between parents and children are *more* sensitive to distance than contacts in sibling relations. This difference is statistically significant. Note that both elasticities are between  $-1$  and  $0$ , rather than below  $-1$ , which means that moving one per cent farther away implies less than a loss of one per cent of contact. In economic terminology, family contacts are inelastic.

Demographic factors play a role as well, but for good theoretical reasons their influence must be considered for each type of relationship separately. In line with expectations, we find that when the anchor has more children, the number of contacts with a child is reduced ( $b = 0.007 + -0.174$ ). Logically equivalent to this is the negative effect of the number of siblings on contacts with parents ( $b = -0.089$ ). As one would also expect, we find that there are fewer contacts per sibling when the number of siblings is larger ( $b = -0.089 + 0.048$ ). Effects of the gender composition of the dyad on contact also depend on the type of tie. When we compare male-male dyads to female-female dyads, the difference appears smaller in sibling relations than in parent-child relations. Hence, the difference between mother-daughter and father-son relations is greater than the difference between sister pairs and brother pairs. This result generally

**Table 5** Multilevel regression of logged distance and logged contacts with interactions

	Logged distance		Logged contact		Logged contact + distance	
	b	P	b	P	b	P
Average education of dyad	0.174	0.00	-0.081	0.00	-0.004	0.46
× parent anchor with child alter	0.018	0.07	-0.026	0.00	-0.016	0.06
× sibling anchor with sibling alter	-0.030	0.00	0.047	0.00	0.019	0.00
Difference in education in dyad	0.049	0.00	-0.030	0.00	-0.010	0.04
× parent anchor with child alter	-0.012	0.20	0.000	1.00	-0.003	0.71
× sibling anchor with sibling alter	-0.016	0.03	0.014	0.04	0.007	0.24
Male-male (vs. female-female)	-0.053	0.22	-0.366	0.00	-0.370	0.00
× parent anchor with child alter	0.059	0.38	-0.059	0.35	0.030	0.58
× sibling anchor with sibling alter	-0.030	0.50	0.102	0.03	0.070	0.09
Male-female (vs. female-female)	-0.036	0.22	-0.252	0.00	-0.245	0.00
× parent anchor with child alter	-0.010	0.85	-0.055	0.24	-0.034	0.40
× sibling anchor with sibling alter	-0.020	0.62	-0.081	0.02	-0.106	0.00
Average age of dyad	0.011	0.00	-0.004	0.04	-0.004	0.00
× parent anchor with child alter	-0.007	0.02	-0.023	0.00	-0.027	0.00
× sibling anchor with sibling alter	0.005	0.01	-0.017	0.00	-0.012	0.00
Number of anchor's siblings	-0.001	0.96	-0.089	0.00	-0.058	0.00
× parent anchor with child alter	-0.038	0.00	0.114	0.00	0.070	0.00
× sibling anchor with sibling alter	-0.006	0.55	0.048	0.00	0.026	0.00
Number of anchor's children	-0.032	0.04	0.007	0.63	0.013	0.29
× parent anchor with child alter	0.112	0.00	-0.174	0.00	-0.106	0.00
× sibling anchor with sibling alter	0.040	0.00	-0.047	0.00	-0.045	0.00
Logged distance					-0.510	0.00
× parent anchor with child alter					0.020	0.13
× sibling anchor with sibling alter					0.120	0.00
R-square within	0.078		0.328		0.494	
R-square between	0.154		0.117		0.402	

Source: Netherlands Kinship Panel Study.

Note: Main effects refer to child anchor with parent alter. Main effects of relationship type are also included but not reported.

underscores the special position of the mother–daughter bond.

## Conclusions

The first main finding from the study is that there is a sharp educational gradient in contact and proximity. Lower educated children are about four times more likely to live more or less in the same neighborhood as their parents and two times more likely to have at least weekly contact with them. For sibling relationships, educational effects are in a similar direction but weaker in magnitude.

Two theoretical arguments were suggested to explain these effects: an argument about different value orientations of the higher educated and an argument about geographic labor market restrictions. The argument about restrictions receives most support. For higher

educated respondents, it is more difficult to find a job close to the parental home and they will also attend schooling farther away from the parental home. This hypothesis is supported by the finding that the effect of education on contact is to a large part indirect, via proximity. The higher educated have fewer contacts with their extended family but this is to a large extent due to the fact that they live farther away from them. The higher educated also compensate their lower number of face-to-face contacts with more frequent phone contact. Nonetheless, we still find significant effects on weekly face-to-face contact after controlling for distance, suggesting that the educational gradient is not entirely a matter of restrictions. Moreover, where to live is also a choice that people make and the fact that the higher educated live farther away may also reflect in part a weaker preference for contact.

An important exception to the above patterns is that the lower educated more often have broken off ties

altogether than the higher educated. Perhaps this may point to a higher prevalence of family conflict among primary educated respondents. More research is needed to sustain this interpretation. The role of international migration needs to be studied in this context as well. On-western immigrants—who are often at the bottom of the educational hierarchy—may experience more frequent disruptions of family ties due to the migration process, despite a more conventional outlook on family issues.

The second main finding of the study is that educational differences within dyads have an effect. In contrast to most older studies, I find that the contact levels in heterogeneous dyads are generally below what one would expect. Similarly, the geographic distance is greater in educationally mixed dyads than we would expect. The findings support a weak version of the dissimilarity effect, however, because the levels are rarely below the level of the homogeneous combination with the lowest level of contact and the greatest distance.

One interpretation for the weak dissimilarity effect is that family ties are often strong enough to overcome some of the differences that are associated with education. This can either be because the feelings of obligation are so strong that people try to avoid making their differences too apparent, or it can be because family members have so many other family-specific things in common that education plays a minor role. The weak effects of educational differences within dyads are nevertheless surprising, especially in light of the strong effects of education on values on the one hand (Hyman and Wright, 1979; Davis, 1982), and the strong effects of education on partner and friendship choice on the other hand (Kalmijn, 1998; Miller McPherson *et al.*, 2001). Moreover, it is found that the dissimilarity effect is weaker for sibling relationships than for parent–child relationships. Because educational differences between siblings are generally not caused by structural educational mobility—they are of the same generation—the weak effects of such differences in sibling ties are especially striking.

Another and equally important explanation lies in the way dyads come to an agreement about the frequency of contact in their relationship. More specifically, it was argued that the member with the weakest preference for contact in the dyad, may also be the one who has the strongest influence in the outcome. If this is the case, the level of contact can also be below the average of the two homogeneous dyads rather than below the minimum. In other words, contacts may be reduced in mixed dyads because the higher educated have more influence rather than because educational differences lead to value disagreements.

Another important finding is that the effects of educational dissimilarity are explained away by distance. In other words, to the extent that educational differences play a role in family relationships, they affect contact levels indirectly, by increasing the geographic distance between family members. In part this is in line with the well-known association between social and geographic mobility. Children of lower educated parents who attain higher levels of education often have to move away from the area where they were brought up to attend university and to find a job that matches their education. Restrictions thus play a crucial role in family relationships, although we should caution that even the effect of educational differences on distance itself is a mix of preference and constraint.

## Notes

1. For estimating mobility effects, authors have also used diagonal mobility models (e.g. Weakliem, 1992; De Graaf *et al.*, 1995). These models are less directly useful for making comparisons of the heterogeneous combinations to the homogeneous combination that contains the lowest level of the dependent variable.

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## References

- Adams, B. N. (1968). *Kinship in an Urban Setting*. Chicago: Markham.
- Aiken, M. and Goldberg, D. (1969). Social Mobility and Kinship: A Re-examination of the Hypothesis. *American Anthropologist*, 71, 261–269.

- Bengtson, V. L. and Harootyan, R. A. (1994). *Intergenerational Linkages: Hidden Connections in American Society*. New York: Springer.
- Blau, P. M. (1956). Social Mobility and Interpersonal Relations. *American Sociological Review*, 21, 290–295.
- Blau, P. M. and Duncan, O. D. (1967). *The American Occupational Structure*. New York: Wiley and Sons.
- Blossfeld, H. P. and Timm, A. (Eds.) (2003). *Who Marries Whom? Educational Systems as Marriage Markets in Modern Societies*. Dordrecht/Boston/London: Kluwer Academic Publishers.
- Cicirelli, V. G. (1994). Sibling Relations in Cross-Cultural Perspective. *Journal of Marriage and the Family*, 56, 7–20.
- Davis, J. A. (1982). Achievement Variables and Class Cultures: Family, Schooling, and Forty-Nine Dependent Variables in the Cumulative GSS. *American Sociological Review*, 47, 569–586.
- De Graaf, N. D., Nieuwbeerta, P. and Heath, A. (1995). Class Mobility and Political Preferences: Individual and Contextual Effects. *American Journal of Sociology*, 100, 997–1027.
- Duncan, O. D. (1966). Methodological Issues in the Analysis of Social Mobility. In Lipset, S. M. (Ed.), *Social Structure and Mobility in Economic Development*. Chicago: Aldine.
- Dykstra, P. A., Kalmijn, M., Knijn, T. C. M., Komter, A. E., Liefbroer, A. C. and Mulder, C. H. (2004a). *The Netherlands Kinship Panel Study, 2002–2003*. The Hague: Netherlands' Interdisciplinary Demographic Institute.
- Dykstra, P. A., Kalmijn, M., Knijn, T. C. M., Komter, A. E., Liefbroer, A. C. and Mulder, C. H. (2004b). *Codebook of the Netherlands Kinship Panel Study: A Multi-Actor, Multi-Method Panel Study on Solidarity in Family Relationships, Wave 1*. The Hague: Netherlands Interdisciplinary Demographic Institute.
- Frankel, B. G. and DeWit, D. J. (1989). Geographic Distance and Intergenerational Contact: An Empirical Examination of the Relationship. *Journal of Aging Studies*, 3, 139–162.
- Goldthorpe, J. H., Llewellyn, C. and Payne, C. (1980). *Social Mobility and Class Structure in Modern Britain*. Oxford: Clarendon Press.
- Greenwell, L. and Bengtson, V. L. (1997). Geographical Distance and Contact Between Middle-Aged Children and their Parents: The Effects of Social Class Over 20 Years. *Journal of Gerontology*, 52B, S13–S26.
- Grundy, E. and Shelton, N. (2001). Contact Between Adult Children and their Parents in Great Britain. *Environment and Planning A*, 33, 685–697.
- Hyman, H. H. and Wright, C. R. (1979). *Education's Lasting Influence on Values*. Chicago: University of Chicago Press.
- Inglehart, R. (1997). *Modernization and Postmodernization: Cultural, Economic and Political Change in 43 Societies*. Princeton: Princeton University Press.
- Kalmijn, M. (1998). Inter-marriage and Homogamy: Causes, Patterns, Trends. *Annual Review of Sociology*, 24, 395–421.
- Kalmijn, M. and Flap, H. (2001). Assortative Meeting and Mating: Unintended Consequences of Organized Settings for Partner Choices. *Social Forces*, 79, 1289–1312.
- Kessin, K. (1971). Social and Psychological Consequences of Intergenerational Occupational Mobility. *American Journal of Sociology*, 77, 1–18.
- Klein Ikkink, K., Van Tilburg, T. and Knipscheer, K. C. P. M. (1999). Perceived Instrumental Support Exchanges in Relationships Between Elderly Parents and their Adult Children: Normative and Structural Explanations. *Journal of Marriage and the Family*, 4, 831–844.
- Kulis, S. (1987). Socially Mobile Daughters and Sons of the Elderly: Mobility Effects Within the Family Revisited. *Journal of Marriage and the Family*, 49, 421–433.
- Laumann, E. O., Gagnon, J. H., Michael, R. T. and Michaels, S. (1994). *The Social Organization of Sexuality: Sexual Practices in the United States*. Chicago: University of Chicago Press.
- Lawton, L., Silverstein, M. and Bengtson, V. (1994). Affection, Social Contact, and Geographic Distance Between Adult Children and their Parents. *Journal of Marriage and the Family*, 56, 57–68.
- Lesthaeghe, R. and Meekers, D. (1986). Value Changes and the Dimensions of Familialism in the European Community. *European Journal of Population*, 2, 225–268.
- Lipset, S. M. and Bendix, R. (1959). *Social Mobility in Industrial Society*. Berkeley and Los Angeles: University of California Press.
- Litwak, E. (1960a). Geographic Mobility and Extended Family Cohesion. *American Sociological Review*, 25, 385–394.
- Litwak, E. (1960b). Occupational Mobility and Extended Family Cohesion. *American Sociological Review*, 25, 9–21.
- Lye, D. (1996). Adult Child-Parents Relationships. *Annual Review of Sociology*, 22, 79–102.
- Lye, D., Klepinger, D. H., Davis Hyle, P. and Nelson, A. (1995). Childhood Living Arrangements and Adult Children's Relations with their Parents. *Demography*, 32, 261–280.
- Miller McPherson, J., Smith-Lovin, L. and Cook, J. M. (2001). Birds of a Feather: Homophily in Social Networks. *Annual Review of Sociology*, 27, 415–444.
- Rogerson, P. A., Weng, R. H. and Lin, G. (1993). The Spatial Separation of Parents and Adult Children. *Annals of the Association of American Geographers*, 83, 656–671.
- Rossi, A. S. and Rossi, P. H. (1990). *Of Human Bonding: Parent-Child Relations Across the Life Course*. New York: Aldine de Gruyter.

- Shelton, N. and Grundy, E. (2000). Proximity of Adult Children to their Parents in Great Britain. *International Journal of Population Geography*, 6, 181–195.
- Silverstein, M. (1995). Stability and Change in Temporal Distance Between the Elderly and their Children. *Demography*, 32, 29–46.
- Silverstein, M. and Bengtson, V. L. (1997). Intergenerational Solidarity and the Structure of Adult Child-Parent Relationships in American Families. *American Journal of Sociology*, 103, 429–460.
- Smits, J., Ultee, W. and Lammers, J. (1998). Educational Homogamy in 65 Countries. *American Sociological Review*, 63, 264–285.
- Spitze, G. and Logan, J. R. (1991). Sibling Structure and Intergenerational Relations. *Journal of Marriage and the Family*, 53, 871–884.
- Szydlak, M. (2000). *Lebenslange Solidarität? Generationsbeziehungen zwischen erwachsenen Kindern und Eltern*. Opladen: Leske and Budrich.
- Thornton, A. and L. Young-DeMarco. (2001). Four Decades of Trends in Attitudes Toward Family Issues in the United States. *Journal of Marriage and the Family*, 63, 1009–1037.
- Tomassini, C., Kalogirou, S., Grundy, E., Fokkema, T., Martikainen, P., Broese van Groenou, M. and Karisto, A. (2004). Contacts Between Elderly Parents and their Children in Four European Countries: Current Patterns and Future Prospects. *European Journal of Ageing*, 1, 54–63.
- Van Duijn, M. A. J., Van Busschbach, J. T. and Snijders, T. A. B. (1999). Multilevel Analysis of Personal Networks as Dependent Variables. *Social Networks*, 21, 187–209.
- Verbakel, E. and De Graaf, P. (2004). Contacten tussen broers en zussen: traditonaliteit, homogeniteit en restricties. [Contacts Between Siblings: Traditionalism, Homogeneity, and Restrictions.] *Mens & Maatschappij*, 79, 389–410.
- Waite, L. and Harrison, S. C. (1992). Keeping in Touch: How Women in Mid-Life Allocate Social Contacts among Kith and Kin. *Social Forces*, 70, 637–655.
- Weakliem, D. L. (1992). Does Social Mobility Affect Political Behaviour? *European Sociological Review*, 8, 153–165.
- Wharton, A. S. and Thorne, D. K. (1997). When Mothers Matter: The Effects of Social Class and Family Arrangements on African American and White Women's Perceived Relations with their Mothers. *Gender and Society*, 11, 656–682.
- Young, M. (1958). *The Rise of Meritocracy: An Essay on Education and Equality*. London: Thames and Hudson.
- Young, M. and Willmott, P. (1957). *Family and Kinship in East London*. London: Routledge and Kegan Paul.

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