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Does educational similarity drive parental support?

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## ABSTRACT

This article tests competing mechanisms explaining linkages between parent-child educational similarity and parental advice and interest to adult children, asking whether mechanisms differ for mothers and fathers. Educational similarities might provide common ground whereas educational dissimilarity affects parents' authority to dispense advice. Using ordered logistic regression with data from the Netherlands Kinship Panel Study ( $N=2,444$ ) parental advice and interest are modeled separately for mothers and fathers. Seemingly Unrelated Estimation is used to test for gender differences across models, revealing that mechanisms driving parental support differ by parents' gender. Fathers show more interest in adult children when they are educationally similar (consistent with the homophily hypothesis), but only among the highly educated, whereas mothers show more interest to highly educated children, regardless of their own level of educational attainment. Fathers' advice is conditioned on their own educational attainment whereas mothers give advice unconditionally (consistent with the gender hypothesis).

Keywords: education, family roles, gender, intergenerational relations, intergenerational transfers, parent-child relations

### Does educational similarity drive parental support?

When children are young, receiving more advice and interest from parents is linked to children's improved wellbeing and school performance (Fan & Williams, 2010; Wang & Eccles, 2012). When children are adults, receiving parental support in the form of advice and interest helps offspring to define life goals, helps overcome difficult life events, and improves life satisfaction (Fingerman, Cheng, Wesselmann, et al., 2012; Ratelle, Simard, & Guay, 2013). Not only is emotional support by parents important to their children's wellbeing, but it remains common throughout children's life courses. Even after children reach adulthood, parents are generally constants in their children's support networks (Albertini, Kohli, & Vogel, 2007). Moreover, thanks to improving health care and long life expectancy, mothers and fathers now spend more time being parents of adult children than they are of minors. Given the importance and frequency of parental advice and interest for adult children, and the increasing amount of time that parents and adult children spend as fellow life travelers (Hagestad, 1986), this article aims to provide a better understanding of the driving forces behind parental advice and interest in adulthood.

In investigating the driving forces underlying parental advice and interest, we posit that different mechanisms may be relevant for mothers and fathers. Studies have shown that the factors influencing involvement with young children differ by gender of the parent. Structural factors such as men's and their partner's work hours tend to guide father involvement, whereas normative factors such as gender ideology or motherhood ideology tend to guide mother involvement (for a review, see Palkovitz, Trask, & Adamsons, 2014). Even when children reach adulthood, mothers and fathers continue to "parent" differently; most notably, mothers give considerably more emotional support than do fathers (Kahn, McGill, & Bianchi, 2011). In light of these

findings, we investigate whether mechanisms differ for mothers and fathers, focusing in particular on the role of educational similarity.

### THE IMPORTANCE OF EDUCATION

Educational attainment plays an important theoretical role in prior research because it is thought to shape status and resources as well as norms and values. More highly educated parents of school-aged children generally spend more time in cultural capital building activities than parents with lower levels of education, both because they can afford to and because they feel these activities are important to their children's development (Altintas, 2016; Kalil, Ryan, & Corey, 2012; McLanahan, 2004). Furthermore, studies of fathers of young children consistently show educational attainment to be a reliable predictor of both the quantity and quality of father involvement, with more highly educated fathers spending more time with their children in activities that further child development (Gauthier, Smeeding, & Furstenberg, 2004). Highly educated parents give more to adult children (Davey, Janke, & Savla, 2004; Fingerman et al., 2015) and highly educated adult children receive more emotional support (Lawton, Silverstein, & Bengtson, 1994; Pillemer & Suitor, 2002) compared to less well-educated parents and children.

Although educational attainment as such may be a strong predictor of parental support and advice, we believe that focusing only on the educational attainment of the "sending" or "receiving" party will not be sufficient in understanding why some children receive more support and advice than others. Prior research on parental support of adult children identifies several characteristics of intergenerational dyads that drive support, including residential propinquity, relationship quality, and past support (Davey et al., 2004). The lack of attention to educational similarity is

conspicuous given that educational attainment itself has repeatedly been shown to affect parental advice and interest and that other dyad characteristics such as gender similarity and value similarity have been linked to closeness in intergenerational relationships (Pillemer & Suitor, 2002).

Thus, we build on prior literature by considering the way in which educational similarities between parents and children are associated with parental support. Do parents give more advice and interest to “apples who fall close to the tree” or to adult children who differ more strongly from their parents, and are there differences between mothers and fathers? In other words: *is the difference in educational attainment in parent-adult child pairs linked to receipt of parental advice and interest by adult children, and if so, how do the mechanisms vary for mothers and fathers?*

#### EDUCATIONAL SIMILARITIES AND DIFFERENCES

In order to test the relationship between educational similarity and parental advice and interest, we consider four types of parent child dyads: dyads where both parent and child have a low level of education (low-low); the parent has a high level of education and the child a low level (parent high-child low or downwardly mobile children); the parent has a low level of education and the child a high level (parent low-child high or upwardly mobile children); and both parent and child have a high level of education (high-high). These four types of dyads not only provide a parsimonious description of the educational similarities and differences between parents and children, but also distinguish between cases where both parents and children are highly educated from those where both have low educational attainment.

By studying the relationship between educational similarity and intergenerational solidarity we hark back to Parsons' (1951) idea that social mobility

and intergenerational solidarity are antithetical. According to Parsons, whereas social mobility implies that individuals can attain a different status than that ascribed to them at birth, intergenerational solidarity implies that statuses ascribed to one member are inferred to all family members. Thus, an increase in social mobility would be accompanied by a decrease in intergenerational solidarity. At the time, empirical research that tested this theory mostly failed to support Parsons' hypothesis by concluding that upward mobility did not weaken intergenerational ties (Blau, 1956; Litwak, 1960). As a result, this line of inquiry went through a period of relative inactivity. Nonetheless, there was some attention to the role of educational mobility in intergenerational relationships in the intervening decades. Suitor (1987) studied mothers' reactions to their daughters' return to school, and found that mothers' own level of education had no effect on either the amount of instrumental support they provided nor frequency of contact, though well-educated mothers were more positive regarding their daughters' educational choices. In the present study we return to examine the relationship between (a lack of) educational mobility and intergenerational support, but with different assumptions derived from more recent developments in the intergenerational support literature. Whereas Parsons and followers posited that status differences between family members would lead to tensions which would in turn lead to decreased support, we now know that intergenerational support, and in particular parental support of adult children, is not in danger of disappearing (Albertini et al., 2007). Given the overall high levels of parental support and improved survey data, one line of current research has turned to investigating why some parents provide more support than others (c.f. Suitor et al., 2016). In this vein, we ask whether it is educational similarity or difference that affects the amount of advice and interest parents give to their adult children. In the

following sections we describe three mechanisms and hypothesize how a link between educational similarity or difference and parental support can be interpreted as support for each mechanism. The mechanisms of homophily, off-script, and long-term reciprocity are described below.

### *Homophily Hypothesis*

Homophily, or the principle that similarity breeds connection (McPherson, Smith-Lovin, & Cook, 2001), is a term developed from social network research to describe why peers tend to select friends based on similarity in background characteristics such as age, religion and gender. Various studies reveal that one of the strongest forms of homophily by which individuals choose both friends and romantic partners is educational attainment, due to the influence educational institutions assert in shaping individuals' preferences as well as opportunities to make social contact (e.g. McPherson et al., 2001). Assuming parents provide emotional support to adult children in part because they enjoy doing so, it may be that parents prefer involvement with educationally similar children because educational institutions have imparted similar interests to both parent and child. Furthermore, because parental interest is linked directly to the mechanism driving the relationship between educational homophily and parental support, namely preferences, we expect that educational homophily will be more predictive of parental interest than advice. Using the same data as in our present study, Kalmijn (2006) finds that parents and children with more similar educational attainment have a higher frequency of face-to-face contact, but that this effect disappears after controlling for residential propinquity.

In short, we hypothesize that *children with the same educational attainment as their parents will receive more parental advice and interest (H1)*. If this hypothesis is

confirmed, the dyads with the same level of education will have higher levels of parental advice and interest than either the upwardly (parent low-child high) or downwardly (parent high-child low) mobile dyads (Table 1). Given that parental interest is linked directly to the mechanism driving homophily, we also expect that *Hypothesis 1 will be stronger when measuring parental interest than advice (H1a)*.

#### *Off-Script Hypothesis*

The second mechanism explaining a possible relationship between educational (dis)similarity and parental advice and interest comes from research on life course expectations. Within the life course paradigm, well-being and status of all members of a family are interconnected. As a result, the inability of a child to meet social scripts can cause feelings of guilt and inadequacy not only in the child, but notably, also in a parent (Hagestad, 1986). Given the educational expansion of the last century (Canton & de Jong, 2005), one of the social scripts in modern Dutch society is that children will be more highly educated than their parents (Van den Broek, Bronnenman-Helmers, & Veldheer, 2010). If children never meet this social script, parents may try to help them achieve success in other arenas by giving those children more emotional support and advice. Given that this hypothesis presupposes that parents want to help their children succeed, we propose that parents see advice as a more concrete way to help than showing interest in their children's lives. Thus we expect the off-script mechanism to particularly drive parental advice.

Based on the off-script mechanism, we posit that *children with a lower educational attainment than their parents will receive more parental advice and interest than children with the same or higher levels of education (H2)*. We consider our findings to support this hypothesis when parents give the most advice and interest



to downwardly mobile children (i.e. children in parent high-child low dyads) and the least to upwardly mobile (parent low-child high) children, with dyads having similar levels of education (parent low-child low and parent high-child high) falling somewhere in between (Table 1). Furthermore, we expect that *Hypothesis 2 will be stronger when measuring parental advice than interest (H2a)*.

#### *Long-Term Reciprocity Hypothesis*

The final mechanism we test with regard to educational (dis)similarity is long-term reciprocity. The concept of reciprocity is often used in the intergenerational solidarity literature to explain why parents differentiate between their children with regard to parental support (Swartz, 2009). According to some scholars, parents give more support to the children who live closer by with the idea that these children will be able to perform practical care tasks when the parents are too frail to do the chores themselves (Grundy, 2005). Parents may also consider educationally successful children as future potential caregivers because successful children are most likely to have the resources to provide care or pay for care services (Fingerman, Cheng, Wesselmann, et al., 2012). In particular, parents with low levels of education themselves may value children with high levels of education. Thus, we assert that parents will be likely to consider children as potential caregivers when the children are upwardly educationally mobile relative to the parents. Theoretically, this mechanism should be linked to both advice and interest.

According to these principles, we hypothesize that *children with a higher educational attainment than their parents will receive more parental advice and interest (H3)*. If this hypothesis is supported, upwardly mobile (parent low-child high) children will receive the most parental advice and interest and downwardly mobile

(parent high-child low) children the least. Dyads where parents and children both have low or high levels of education will fall somewhere in between (Table 1).

Insert Table 1 about here

### *Gender Hypothesis*

One critique of the social mobility literature and to a lesser extent of the literature on intergenerational support is that gender differences have often been neglected or overlooked. Because men's employment rates have always exceeded those of women, studies of social mobility compared children's occupational status to their father's rather than their mother's status (Beller, 2009). Thus, particularly in older mobility studies, "parent" is implicitly equated with "father". Paradoxically, the opposite tended to occur in the literature on determinants of intergenerational support, where studies have been quick to equate "parent" with "mother". Prior research would often focus on only mothers (Pillemer & Suitor, 2002). Other studies examined both parents (e.g. Fingerman, Miller, Birditt, & Zarit, 2009; Grundy, 2005; Kalmijn, 2006), assuming that similar mechanisms drive fathers' and mothers' support. Furthermore, there has been some initial research on gender differences in parental support of adult children. One study revealed that mothers with positive relationships with their children were more likely to provide higher levels of support, whereas fathers were likely to provide lower levels of support, preferring instead to help the children who need it the most (Swartz, Kim, Uno, Mortimer, & O'Brien, 2011). However, to our knowledge, no study has yet examined gender differences in association between educational similarity and parental support.

In general, we expect educational similarities to have more of an impact on advice and interest from fathers rather than mothers. This is because women are

socialized to value relationship quality whereas men are socialized to value success and status (Chodorow, 1978; Kahn et al., 2011). Given that educational similarity is a measure of both success and status, we expect fathers to be more responsive to it than mothers. Prior empirical research supports the idea that mothers may not distinguish between their children based on educational attainment. For example, Carr (2004) found that mothers' self-esteem is not greatly affected by their daughters' relative success. If mothers' self-esteem is not affected by their offspring's relative success, then mothers would also not distinguish between more and less successful children in the amount of advice or interest they provide. The previous considerations bring us to hypothesize that *the relationship between educational similarity and parental advice and interest will be stronger for fathers than mothers (H4)*. If this hypothesis is supported we expect to see (1) a significant homophily, off-script, or long-term reciprocity effect for fathers, (2) a weaker effect or no association between educational similarity and parental support for mothers, and (3) a statistically significant difference between fathers and mothers.

#### *Controls*

A number of characteristics of the child, parent, dyad, and family may be related both to educational difference as well as to the frequency of advice and interest parents show adult children. *Child's* and *parent's age* may influence educational difference in the sense that children in recent cohorts are less likely to be more highly educated than their parents due to the dramatic increase in educational attainment following the Second World War (Canton & de Jong, 2005). Age is also linked with support exchanges: support from parents to adult children decreases as children age due to a decrease in children's need and a decrease in ability of the parent to provide (Rossi & Rossi, 1990). It is also important to control for child's health as poor health may

indicate need of emotional support (Grundy, 2005), just as poor health is related to lower educational attainment (Pincus & Callahan, 1994). Daughters may be more likely to have lower educational attainment, particularly in older cohorts (Centraal Bureau voor de Statistiek, 2007), and same-gendered dyads have been shown to exchange more emotional support (Pillemer & Suitor, 2002). We control for birth order and number of children because first born children have been shown to receive more support as do children with fewer siblings (Emery, 2013; Suitor & Pillemer, 2007). Birth order and sibship size may also affect parental resources allowing children to pursue higher education (Black, Devereux, & Salvanes, 2005).

Geographical distance between parent and child may be an indirect result of educational difference, where higher educated children move farther away from parents (Inglehart & Welzel, 2005). Although distance is not an obstacle to providing emotional support or advice, proximity may provide more opportunities for parents to give advice and interest (Kalmijn, 2006). Parents who live farther from adult children may provide less emotional support because they have less frequent contact. By virtue of seeing each other less often, parents will have fewer opportunities to give advice and show interest in their children's lives. Thus, research suggests that distance is an important control variable by which educational similarity affects intergenerational support. By controlling for distance as a structural barrier to parental support, we are able to perform a more robust test of the role of the homophily, off-script, and long-term reciprocity hypotheses. Finally, we also control for whether the parents were married or cohabiting. Cohabiting parents in our sample (parents born on average before the second World War), were a select group who may have held particularly gender egalitarian and progressive views, reflected perhaps in their educational attainment and their emotional support to adult children.

## METHOD

Our analyses were conducted using the Netherlands Kinship Panel Study (NKPS), a longitudinal, multi-actor survey designed to measure solidarity within family relationships (Dykstra et al., 2005). The survey is generally considered to be representative of the Dutch population, although respondents in the NKPS are slightly more likely to be female, middle aged, and have children living at home. The survey has a primary respondent (this can be either a parent or adult child in our selection) and up to five survey alters consisting of the current partner, up to two randomly selected children, one parent, and one sibling. We use the first wave, gathered between 2002 and 2004 for our analysis ( $N = 8,161$  families), selecting families with data from at least one parent and one child and excluding 45 families where both children surveyed were born in the same year ( $N = 8,071$ ). After selecting families with children between 25 and 50 years old, we were left with  $N = 2,415$  families.

We further selected only families where the parents were heterosexual, lived together at the time of the survey, and had been together since before the child's birth ( $N = 1,729$ ). In this way we are able to assume that the partner of a biological parent is also a biological parent of the reference child. This is important because research in the Netherlands suggests that stepparents have poorer relationships with their adult children than do biological parents, even after controlling for the time that stepparents cohabited with children (Kalmijn, 2013a). If families had two children who participated in the survey, we selected those families where the parents had been together since before the birth of the older child. Of all families in our final selection, 98.5% of the parents were married and 1.5% were cohabiting but never married.

As we are interested in educational similarity as a driving mechanism of parental advice and interest, we selected only children who were not participating in education at the time of the survey and thus presumably have completed their education ( $N = 1,694$ ). Our final selection was to exclude the 44 families where children and parents live together, leaving us with a total of 2,444 adult children in 1,629 families. Approximately 7% of cases are missing information on the dependent variables, 9% of cases are missing information on educational similarity, and less than 5% of all cases are missing information on our control variables. After listwise deleting cases with missing values on any of the variables, we are left with varying sample sizes for each of our four analyses on advice and interest from the father and mother. Final sample sizes are visible in the regression models in Table 3.

The structure of our data is complex, with up to two children nested in up to two dyads (one with the mother and one with the father), nested in families. The primary respondent was a parent in 59% of cases and an adult child in 41% of cases. Alternate analyses available upon request show that results are unaffected by whether the parent or child was the primary respondent. In just over three fourths of families (77%), we have reports from children about both parents and reports from more than one child in 67% of families. Across our sample, mother-child dyads were slightly more prevalent (reported on in 84% of families) than father-child dyads (81% of families), and children were as likely to report on parental advice as interest. All variables, with the exception of the dependent variable, are created based on the relevant respondent's self-reported information. Thus, educational similarity is based on both the parent and child's self-reported level of educational attainment. Likewise, age, and gender are self-reported by the parent and child. When self-reports from the parents were not available, we use information on the parent as reported by the child

to supplement missing data. We use advice and interest from parents as reported by the child in order to avoid social desirability bias (Mandemakers & Dykstra, 2008).

### *Dependent Variables*

*Paternal* and *maternal advice* are the child's responses to "Did you get council or good advice from [father's/mother's name] in the past 3 months?" with responses coded as: 0 = "not at all", 1 = "once or twice", 2 = "several times". *Paternal* and *maternal interest* are the child's responses to "Has [father's/mother's name] shown an interest in your personal life in the past 3 months?" Responses were coded as: 0 = "not at all", 1 = "once or twice", 2 = "several times". Means and number of observations for all variables are visible in Table 2, broken down by dyad type. Parental advice and interest were posed as single-item measures for parsimony in the questionnaire and are commonly used this way in other studies (Fingerman, Cheng, Tighe, Birditt, & Zarit, 2012; Grundy, 2005; Sutor et al., 2016). Although single-item measures may be seen as less robust than multi-item measures, there are two strengths of the way these questions were asked. First, the focus on the last three months provides a short time frame, reducing respondent burden to remember advice and interest from parents. Second, the questions are reliable across respondents because they ask about behavior rather than subjective satisfaction with parental support.

Insert Table 2 about here

### *Independent Variables*

*Educational similarity between parent and child* is our main independent variable. This is a four category variable at the dyad level, where dyads are characterized as (0) "low-low": both parent and child have a low level of education; (1) "parent high-child low": the parent has a high level of education but the child's education is low

(downwardly mobile); (2) “parent low-child high”: parent is low but child is high (upwardly mobile); or (3) “high-high”: both parent and child are highly educated. Because children had systematically higher levels of education than their parents, we defined high and low education differently for parents and children. High education for parents is a three or higher on an ISCED 7 scale (*completed high school*) whereas high education for children is a four or higher on the same scale (*post-secondary education*). We conducted robustness checks on this operationalization of education, which we describe in the conclusion (results available upon request).

### *Controls*

We use a number of control variables to capture characteristics of the child including age, gender, health, and birth order. *Age* is the child’s age in years at time of interview created by subtracting the birth year from the year of survey; *gender* is a (0) if the child is “male” and a (1) if she is “female”; *health* is the self-reported health on a 5 point scale where (0) is *very bad* and (4) is *excellent*; and *parity* is the birth order within the family, including adopted children but excluding step-children. We also control for age of the parent as it may influence both educational attainment and parental support. *Age* is the parent’s age in years at time of interview, created by subtracting the year of birth from the year of the survey. *Geographical distance* from parent to child is measured in kilometers according to the formula suggested in the NKPS codebook (Dykstra et al., 2005). If one or both members of the dyad were living outside of the Netherlands, distance was coded to 250 kilometers. *Number of children* is the number of biological or adopted children that parents had together excluding stepchildren. *Married* is a measure of whether the parents were married where (1) indicates “married” and (0) indicates “registered partnership or cohabiting unmarried”.



*Method*

We test our hypotheses with a two-step analysis. First, we performed four ordered logistic regressions on father's and mother's advice and interest separately, testing the homophily, off-script, and long-term reciprocity hypotheses, and then we compare regressions on fathers and mothers to test the gender hypothesis using Seemingly Unrelated Estimation. All analyses were conducted in Stata 14.

The ordered logistic regression was conducted using the `ologit` command with robust standard errors. One assumption of ordered logistic regression is that the odds of falling in each category are proportional, in the sense that the odds of receiving no advice or interest are lower than the odds of receiving advice (or interest) once or twice, which are in turn lower than the odds of receiving advice (or interest) several times in the past three months; and furthermore, that the logarithm of these odds is linear. If this assumption is violated, the results of our regression are not reliable. We tested this assumption with a likelihood ratio test on each of the four models using the user-written package `omodel` (Wolfe & Gould, 1997) in Stata. The tests were not significant, meaning that we do not violate the proportional odds assumption. Thus, we treat this as an ordinal rather than a multinomial regression. Results were as follows:  $\text{Chi2}_{\text{father advice}}(11) = 10.37, p = .50$ ;  $\text{Chi2}_{\text{mother advice}}(11) = 13.02, p = .29$ ;  $\text{Chi2}_{\text{father interest}}(11) = 6.73, p = .82$ ;  $\text{Chi2}_{\text{mother interest}}(11) = 12.63, p = .32$ .

Once ordered logistic regressions were conducted, we turned to Seemingly Unrelated Estimation to test the gender hypothesis. Similar to Seemingly Unrelated Regression, SUE can be used to compare the effects of any independent variable on two different dependent variables (for an example, see Mandemakers & Dykstra, 2008). SUE allows us to test whether belonging to a particular dyad (low-low, for

example), is linked to greater advice (or interest) from mothers or advice (or interest) from fathers. This method assumes that observations in both models are related, which is a reasonable assumption when analyzing mother-child and father-child dyads in the same family. In order to compensate for any unmeasured correlation between observations, this estimation technique calculates separate ordered logistic regressions for mothers and fathers given a common variance-covariance matrix (StataCorp, 2013). A Wald test with a chi-squared distribution is then used to compare coefficients across models. A significant test indicates that the strength of a given coefficient is different across Models 1 and 2 or Models 3 and 4 in Table 3.

Our data are hierarchically structured with individuals nested in dyads nested in families, thus violating the assumption of independence of observations necessary for a generalized linear model. As a result, standard errors are likely to be inflated and we run the risk of committing type 1 error. We correct for this by using robust standard errors to calculate the confidence intervals. Because we are not interested in analyzing mechanisms at the family level, we do not need to conduct a multilevel analysis. For ease of interpretation, we also present the marginal predicted probabilities of the likelihood of receiving frequent advice and interest by parent-child dyad, for a fictive “average” child in our data (e.g. who is 35 years old, in good health, the second oldest child, has a father who is 65, a mother who is 63, lives 30 kilometers away from married parents, whose health is neither good nor poor, and who comes from a family with 2.9 kids on average). Predicted probabilities are presented in Figures 1 and 2.

## RESULTS

The results of our ordered logistic regression and SUE models are shown in Table 3. The low-low dyad serves as the reference category. The superscripts (a), (b), (c), and (d) indicate whether a given dyad is significantly different from the low-low dyad, the parent high-child low dyad, the parent low-child high dyad, and the high-high dyad, respectively. For example, the superscript (b) indicates that the coefficient for that dyad is significantly different from that for the parent high-child low dyad. In this section we discuss our results in order of the hypotheses.

### *Homophily Hypothesis*

The homophily hypothesis (H1) proposed that children in dyads where parents and children have the same level of education (i.e. high-high or low-low) receive more advice and interest than children in dyads where parents and children have different levels of education (parent low-child high or parent high-child low). Our analyses as shown in Table 3 confirm this hypothesis for father interest (Model 1) but not for father advice or any kind of support from the mother. Model 1 reveals that dyads where fathers show the most interest are those where both father and child have a high level of educational attainment ( $\beta_{\text{high-high}} = 2.36, p < .01$ ). In substantive terms, fathers have a factor of 2.36 higher odds of showing frequent interest in children when both they and their child are highly educated compared to low-low dyads. The superscripts in Table 3, Model 1 indicate that children in the high-high dyad receive significantly more interest than children in all other types of dyads. Figure 1 presents the same information, but as predicted probabilities rather than odds ratios. Here we see that, given mean values for all control variables, children in high-high father-child dyads have on average an 81% chance of their fathers showing frequent interest in their lives compared to the on average 68% chance of receiving frequent interest for children in each of the three other dyads. Interestingly, homophily in this case only

seems to apply for the highly educated, not children in low-low dyads.

Hypothesis 1a predicted that the homophily effect would be stronger for parental interest than parental advice. This is indeed what we find as evidenced by the significant effect of homophily for advice but not for interest, with the added caveat that the homophily hypothesis appears to only apply for fathers.

#### *Off-Script Hypothesis*

The off-script hypothesis (H2) proposed that parents give the most advice and interest to downwardly mobile children (i.e. in parent high-child low dyads) and the least advice and interest to upwardly mobile children (i.e. in parent low-child high dyads). Support given in low-low and high-high dyads would fall somewhere in between. This hypothesis is not supported, as evidenced by Table 3. In no analysis do we see that children in parent high-child low dyads receive significantly more support than in other types of dyads. The model that comes the closest to confirming the off-script hypothesis is Model 3 on father advice. Here we see that dyads where fathers give the most advice are those in which the father is more highly educated than the children ( $\beta_{\text{parent high-child low}} = 1.51, p < .01$ ) and in high-high dyads ( $\beta_{\text{high-high}} = 1.60, p < .01$ ). The superscripts indicate that these levels of support are significantly higher than those for children in the low-low and father low-child high dyads. The same information is presented in the form of predicted probabilities in Figure 2, revealing that children in father high-child low and high-high dyads have an approximately 26% chance of having received paternal advice three times or more in the past three months compared to the 18% chance for children in other father-child dyad types. Although children in father high-child low dyads receive paternal advice significantly more frequently than children in low-low dyads, this cannot be interpreted as support of the off-script hypothesis given that the “high-high” coefficient is also significant.

Rather, it suggests that the level of education of the father is the relevant factor in determining paternal advice.

Hypothesis 2a predicted that the off-script effect would be stronger for parental advice than parental interest. As there is no evidence supporting Hypothesis 2, there is likewise no evidence supporting hypothesis 2a.

#### *Long-Term Reciprocity Hypothesis*

The long-term reciprocity hypothesis (H3) predicted that upwardly mobile children in parent low-child high dyads would receive the most advice and interest and downwardly mobile children (parent high-child low) the least. Support exchanges in homophilous dyads would fall somewhere in between. This hypothesis is not supported by the data in Table 3. The model that comes the closest to providing some evidence of a long-term reciprocity effect is Model 2. Here we see that children in mother low-child high (upwardly mobile) and high-high dyads have higher odds of receiving frequent interest from their mothers than children in mother high-child low (downwardly mobile) and low-low dyads ( $\beta_{\text{parent low-child high}} = 1.87, p < .01$ ;  $\beta_{\text{high-high}} = 1.94, p < .01$ ). The same finding is reflected in Figure 1 where we see that children who are more highly educated than their mothers (mother low-child high) or who share a high level of education (mother high-child high) have an 87% chance of receiving frequent maternal interest compared to a 78% and 80% chance respectively for children in low-low and mother high-child low dyads. Although upwardly mobile children are significantly more likely to receive maternal interest, the long-term reciprocity hypothesis is not supported given that the high-high coefficient in this model is also significant. Taken together, these findings provide evidence that the level of education of the child is the relevant factor in determining maternal interest. There is no empirical support for the long-term reciprocity hypothesis with regard to

mothers' provision of advice, or fathers' provision of either interest or advice.

#### *Gender Hypothesis*

Finally, the gender hypothesis (H4) predicted that the mechanisms described in the homophily, off-script, and long-term reciprocity hypotheses were more likely to be found for fathers whereas mothers would be less likely to distinguish between children based on educational similarity. Support for this hypothesis would have entailed (1) a significant homophily, off-script, or long-term reciprocity effect for fathers, (2) a weaker effect or no association between educational similarity and parental support for mothers, and (3) the difference between fathers and mothers being statistically significant. This hypothesis was tested with two Seemingly Unrelated Estimations (SUE), one comparing Models 1 and 2 and another comparing Models 3 and 4. In both cases, we can only partially confirm the gender hypothesis. We do find a significant difference in the comparison of Models 1 and 2 on mother and father interest as well as in Models 3 and 4 on mother and father advice, though neither of these gender differences is completely in line with expectations.

Specifically, the SUE analysis and Wald tests comparing Models 1 and 2 on parental interest show that the difference in interest received between father low-child high and father low-child low dyads is significantly smaller than the difference in interest received between mother low-child high and mother low-child low dyads ( $\chi^2(1) = 6.07, p < .01$ ). In other words, the pattern observed regarding interest received from fathers indicates a homophily effect, where children in the father high-child high dyads receive significantly more interest than children in all other dyads. By comparison, maternal interest is higher when the child's educational attainment is higher, regardless of the mother's own educational attainment (see also Figure 1). These findings can only partially confirm the gender hypothesis. On the one hand, the

significant difference is in line with the gender hypothesis because it shows that educational homophily drives interest from fathers but not mothers. On the other hand, it would seem that mothers do differentiate between their children based on educational attainment, thus violating the assumption of the gender hypothesis that mothers would show unconditional interest in their children.

Similarly, the gender hypothesis can only be partially confirmed with regard to parental advice. The SUE analysis comparing Models 3 and 4 in Table 3 reveals that the difference in advice received between high-high and low-low father-child dyads is greater than the difference in advice received between high-high and low-low mother child dyads ( $\text{Chi}^2(1) = 6.41, p < .01$ ). This difference between mothers and fathers is likewise visible in Figure 2, where we see that the predicted probability of receiving frequent maternal advice is more or less the same for all educational combinations, whereas pronounced differences in the probability of frequent paternal advice exist across father-child dyads. Thus, the father's education appears to be a driving mechanism of paternal advice but mothers, by comparison, appear to give advice to all children at the same rate, regardless of educational achievement or similarity. The significant difference between mother-child and father-child advice is in line with the gender hypothesis in so far as it shows that mothers do not differentiate between their children with regard to educational similarity, and that mothers are significantly different from fathers in this regard. However, the hypothesis also proposed fathers would be more likely to differentiate between their children based on educational similarity, yet the results with regard to advice do not support this part of the hypothesis. Rather, we find that educational attainment of the father drives paternal advice. Although neither of the findings regarding mother-father differences in parental support completely confirm the gender hypothesis, they do

indicate that different mechanisms drive mothers' and fathers' interest and advice.

Insert Table 3 & Figures 1 & 2

## DISCUSSION

In this section we will discuss the findings regarding the association between educational similarity and parental support in mother- and father-child dyads. Our study revealed that parent-child educational similarities are an important yet often overlooked predictor of parental support. We have two main findings. First, fathers show the most interest in their offspring in highly educated homophilous dyads; in other words, to apples who have fallen close to the tree, education-wise. Second, we found that mothers and fathers give support for different reasons.

### *Educational Homophily in Parent-Child Dyads*

Our findings regarding the homophily hypothesis go beyond what one would expect based on the individual influence of either father's or child's educational attainment and reveal the importance of considering the way educational attainment of parent and offspring interact. As one of the few articles to examine the effects of educational similarity between parents and children on parental support, our study suggests that research which fails to account for educational similarity underestimates the effect of education on the level of interest that fathers give to their children. In keeping with prior research we confirm that higher educated parents give more support to their adult children (Davey et al., 2004; Fingerman et al., 2015) and that higher educated children receive more support (Lawton et al., 1994; Pillemer & Suitor, 2002), but our study is the first to show that, at least in regard to interest from the father, this is only true when both occur together. We posit that this is because highly educated fathers and children have more interests in common, and therefore are more interested in each other. Homophily as a phenomenon is most often used to



explain how people choose their friends (McPherson et al., 2001). Our research reinforces prior studies that show it is also a useful construct to explain interactions in ascribed, familial relationships (Voorpostel, 2007). Homophily is perhaps particularly applicable to familial relationships in an individualistic country like the Netherlands where intergenerational relationships are driven more by choice than by normative prescriptions (Komter & Vollebergh, 1997; Pahl & Spencer, 2004).

It was unexpected that this homophily effect would only hold for highly educated pairs. In the present study we show that both homophily and educational attainment are important drivers of parental support. Observing such a marked difference between high-high and low-low dyads appears consistent with the concept of diverging destinies, which describes how higher educated parents are more involved and participate in more developmentally appropriate forms of involvement than parents with lower levels of education (Kalil et al., 2012; McLanahan, 2004). Parents who are highly educated and have been successful at giving developmentally appropriate support to their children over the course of their lives, may in turn be more likely to have children who are highly educated. Showing interest in one's adult children may be the developmentally appropriate equivalent of reading to preschool aged children, and prior research does show that highly educated individuals exchange more intergenerational support (Davey et al., 2004; Fingerman et al., 2015).

#### *Differences Between Mothers and Fathers in Provision of Support*

The second main finding as described above is that mothers and fathers give advice and interest for different reasons. Fathers give the least advice when they have low levels of educational attainment, and the most when they are highly educated regardless of the child's educational attainment. Mothers, by comparison, give advice equally to all their children regardless of their own and their children's educational

attainment or similarity, and they do so at rates equal to what highly educated fathers give. As for interest, we see that fathers show more interest in children based on educational homophily whereas mothers show more interest in highly educated children, regardless of their own educational attainment. These findings suggest that there is continuity across the life course in that gendered parenting patterns continue into late adulthood. Just as different mechanisms motivate men's and women's involvement with young children (Palkovitz et al., 2014), so too do different mechanisms motivate mothers and fathers in their interactions with adult children. We hypothesized that fathers would be more likely to distinguish between children based on educational similarity whereas mothers would be likely to support all children equally. Specifically, fathers would be concerned with status enough to give more emotional support to children based educational similarity whereas mothers would not differentiate between their children based on educational similarity, because they are socialized to be more concerned with relationship quality than status (Chodorow, 1978; Gilligan, 1982). The gender hypothesis was supported with regard to father's interest, in that the data indicate a homophily effect, and mother's advice, in that the data show mothers do not differentiate between their children, but not with regard to father's advice, where we found only an effect of educational attainment but not educational similarity, nor mother's interest, where we found that mothers do differentiate between their children. Because the findings regarding father's advice and mother's interest were not in line with expectations, we briefly explore alternate explanations.

With regard to fathers' advice, the finding that highly educated fathers more frequently give advice to their children may be due not so much to fathers' actual behavior, but to adult children's perception of their father's behavior. Adult children

may simply be more likely to rate advice from highly educated fathers as “good”, regardless of how much advice is actually given. This explanation is plausible because (1) our measure of advice asked specifically about “good” advice, and (2) we measured the child’s report of advice received rather than the father’s report of advice given. A qualitative study of young adults by Carlson (2014) reveals that children were more likely to implement advice if the advice giver was perceived as being a legitimate authority. Following this logic, it could be that in the domain in which fathers give advice, highly educated fathers are more likely to be considered to have the authority to give good advice whereas the advice from fathers with lower educational attainment is less well respected. This may explain why we see an effect of fathers’ educational attainment on advice, but no effect of educational similarity.

The findings with regard to mothers’ interest are inconsistent with the gender hypothesis because if mothers were socialized to be more concerned with relationship quality than child status, we would not expect them to show more interest to highly educated children. One potential explanation for why we see that mothers do not distinguish between their children when giving advice but do when giving interest could be because advice is an instrumental form of support but interest is not (Burlison, 2003). Whereas advice is given with the idea that it will have some effect on the recipient’s behavior, interest tends to reflect the quality of the relationship. Prior research suggests that mothers do have favorite children to whom they are emotionally closer or in whom they show more pride (Suitor et al., 2016), and this favoritism may manifest itself in the form of maternal interest. In particular, our findings suggest that mothers may prefer children with high educational attainment. Because these children are their favorites, mothers show more interest in their lives. However, despite having favorites, when it comes to helping their children in concrete

ways such as providing advice, our study reveals that mothers give to all children equally. Literature on intergenerational solidarity suggests that there is a norm of equality dictating that parents dedicate the same amount of resources to each of their children (Kalmijn, 2013b). For example, research shows that parents feel the need to distribute inheritances equally among children (McGarry, 1999). Thus although mothers do seem to show favoritism when they give more interest to highly educated adult children, when it comes to actually helping their children by providing advice, they do so unconditional on educational attainment or similarity.

#### *Limitations and Avenues for Future Research*

We acknowledge data limitations that might have influenced our conclusions. First, we dichotomized educational attainment in an attempt to simplify the many possible educational similarities and differences between parent and child. In so doing we lose information about the complexity of educational attainment, however we believe these choices are justified in the spirit of parsimony. Furthermore, parents were considered highly educated if they had graduated from high school (ISCED 3 or higher), but children were only considered highly educated if they had followed any post-secondary schooling (ISCED 4 or higher) in order to accommodate the educational expansion of the last century. We tested the appropriateness of these choices with four alternate measures of educational similarity (analyses available upon request): (1) education was dichotomized into high and low education, but the cutoff point was the same for parents and children; (2) a three-category formulation of educational attainment where the cutoffs were different for parents and children according to frequency distributions; (3) a three-category formulation of educational attainment where cutoffs were the same for parents and children; and (4) a linear interaction term between the seven-category ISCED scores for parents and children.

Although results vary somewhat depending on how education is measured, these additional analyses reinforce our conclusions and, in the case of fathers' advice and mothers' interest, deepen our understanding of the relationship between parent and child's educational attainment. Specifically, it appears that the tendency of highly educated fathers to give advice to children with low levels of education is driven primarily by fathers who have completed secondary education only (ISCED score 3). The highest educated fathers do not give significantly more advice to lower educated children. Additionally, there is some indication of a homophily effect for mothers' interest where the highest educated children with the highest educated mothers receive more interest.

Our second limitation is that we run our analysis on cross-sectional data, and as such run the risk of reversed causality. It could be that parental advice and interest remain stable over the course of one's life. Although the survey questions are asked about advice and interest in the last three months explicitly, they could be representative of advice and interest prior to the child completing his or her education. As such, it would be advice and interest that drive educational similarity or dissimilarity, rather than the reverse. In particular, this may provide an alternate explanation for why highly educated children receive more maternal interest than children with low levels of educational attainment. It could be that maternal interest helped children to achieve a high level of educational attainment in the first place. However, reversed causality does not explain why fathers give more advice to children who are educationally downwardly mobile (parent high-child low dyad), as one would expect advice to be beneficial to educational attainment. Neither does reversed causality explain the homophily mechanism driving paternal interest. If paternal interest explained children's high educational achievement, then we should

see an additional significant effect of being upwardly educationally mobile (parent low-child high dyad). Although the NKPS is longitudinal in design, determining causality requires collecting data from childhood until late 20s or early 30s, a time frame which we are not yet able to cover. It is an interesting question for future research, however, to what extent parental support changes over the course of children's lives and its impact on educational attainment.

### *Implications*

In addition to our main conclusions and limitations, there are some implications brought to light by our findings. First, the finding that parents never give more advice or interest in parent low-child low dyads than in high-high dyads suggests that parental support may play a role in the reproduction of disadvantage for individuals with low educational attainment. Prior research suggests that parental support to adult children can help buffer against negative life events by providing psychological benefits (Amato, 1994; Fingerman, Cheng, Wesselmann, et al., 2012; Ratelle et al., 2013). In addition to other economic and health advantages of being highly educated, highly educated children with highly educated parents will receive more emotional support, which will in turn make them more resilient to negative life events. As our research shows that highly educated fathers give more advice to adult children, we can also expect that the highly educated sons in our study will in turn give more advice to their children once they reach adulthood, thus compounding the benefits of parental support over generations.

Despite the implication that a gradient in parental support may cause cleavages in society, these findings are not as dire as they seem. Although highly educated children with highly educated parents receive more parental support on average than children in low-low dyads, all children receive quite high levels of

support from their parents, and they receive more now than in the past (Fingerman, Cheng, Tighe, et al., 2012). In our study, the adult children who receive the least amount of support from either parent are children in low-low dyads, yet even they have a 65% chance of having received interest three or more times in the past three months from their fathers and a 19% chance of having received frequent paternal advice in the same time period. It is also important to note that these numbers refer specifically to support from either the mother or the father and say nothing of total support received from either parent, let alone support from the myriad of kin and nonkin in their lives. Likely, the chance of having received any parental advice or interest is even higher than these probabilities would suggest.

This study was conducted within the context of the Netherlands, where communication and travel infrastructure is well developed, and correlations between advice and interest from mothers and fathers was quite high (.75 for advice, .71 for interest). This could affect our results in two ways, and as such, it would be interesting to see research in other contexts for comparison. First, not only do relatively high proportions of aging parents live less than 25 kilometers away from their adult children (63.6% compared to 43.3% European average based on the Survey of Health, Ageing and Retirement in Europe (Hank, 2007)), but communication is affordable and easy for the 12% of adults living more than 25 kilometers away. Yet in countries with poor communication infrastructure in rural areas, or large proportions of adult children who live very far from their parents, for example, individuals with a lower socioeconomic status may be unable to afford to communicate with family members. This could create even more dramatic differences in support exchange between high-high and low-low parent child dyads. However, technological advances such as video chat and reliable internet access make physical

proximity increasingly irrelevant, thus suggesting that findings in the Netherlands may be generalizable to other settings in the near future if they are not already.

Second, the high correlation between support from mothers and fathers may indicate that parents often speak with their children together or in tandem. Indeed, one Dutch study revealed that mothers act as kinkeepers for fathers, helping to keep them connected with adult children (Kalmijn, 2007). In more traditional gender societies where fathers are less involved with their children (Hook, 2006), the association between emotional support from mothers and fathers might be much lower, simply because fathers are less involved.

Returning to the question we posed at the beginning, “Does it matter how far the apple falls from the tree?”, our answer is: Yes, our study suggests so, but only to some extent; to fathers and only in highly educated father-child dyads.



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Table 1. *Predicted Ranking of Advice and Interest by Educational Difference According to Each Hypothesis, Where 4 = Most Advice and Interest and 1 =*

Educational difference <sup>a</sup>	Homophily (H1)	Off-script (H2)	Reciprocity (H3)
Parent low-child low	4	2.5	2.5
Parent high-child low	1	4	1
Parent low-child high	1	1	4
Parent high-child high	4	2.5	2.5
<b>Advice or interest</b>	Interest (H1a)	Advice (H2a)	Both
<i>Least.</i>			

<sup>a</sup>Educational difference between parent and child first describes the parent's educational status (low or high) and then the child's. Thus, low-high refers to an upwardly mobile dyad where the parent's status is low and the child's is high.