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**Multi-partner fertility is associated with lower grandparental investment from in-laws:**

**Evidence from the Generational Transmissions in Finland survey**

Prefinal version.

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**Abstract:** Divorce and remarriage influence family relations, yet few studies explore changes in grandparenting due to family recomposition. We study variations in grandparental investment when the parents have children from several unions. Using nationally representative data of younger adults from the Generational Transmissions in Finland survey conducted in 2012 (sample n = 760 parents), we compare the grandchild care that parents report having received from their parents and parents-in-law. Results show that multipartner fertility is not associated with the amount of grandparental investment a parent receives from his or her own parents, but is associated with the investment received from maternal in-laws. Grandparents are less likely to invest in grandchild sets which include step-grandchildren, compared to grandchildren living with their original parents. Fully biological grandchildren are 31% more likely to receive grandparental care compared to grandchild sets including step grandchildren. Thus the reduction in grandparental investment associated with step-grandchildren may also affect children from the new union.

**Keywords:** childcare, divorce, grandparents, step-grandchildren

## **Introduction**

Grandparents represent the most important extended family relations to parents with small children, and are known to assist with various forms of practical, emotional and financial support (Coall & Hertwig, 2010; Euler & Michalski, 2008). However, divorces and remarriages may influence family relations including those between grandparents, their adult children and grandchildren. In this article, we study if family recomposition is associated with changes in grandparenting and in what family constellations such changes may occur. In particular, we explore if having children from both previous and current unions is associated with an increase or decrease in grandparental child care provision, compared to having children only with a current partner. In the latter case, all grandchildren are biologically related to both their maternal and paternal grandparents, whereas the former case means that children from previous union are related to only either of them.

Grandparental investment can be understood as the various forms of resources that grandparents provide for their offspring (Coall & Hertwig, 2011). In contemporary societies, such investment includes practical, emotional and financial support, and is for young grandchildren typically represented by child care (e.g. Hank & Buber, 2009). Child care is a good measure of grandparental investment since it can be seen as a more direct and more costly investment than e.g. calling each other or spending time together (Euler & Michalski, 2008; Hrdy, 2009; Kaptijn, Thomese, van Tilburg, & Liefbroer, 2010; Thomese & Liefbroer, 2013). In this article, we use the child care help parents report having received from their own parents or parents-in-law as a measure of grandparental investment.

Grandparents often serve as persons the child can confide in and rely on during crisis events in the life course, such as severe illness of a family member or parental divorce (Sear & Coall, 2011).

Frequent contact and emotional closeness with grandparents, especially maternal grandparents, may benefit the child's social and emotional well-being in all types of families (e.g. Tanskanen & Danielsbacka, 2012; but see Tanskanen, 2013). Several studies show that close contacts with grandparents are especially influential if the child lives in more challenging family constellations, for example, with a single mother or with step-parents (e.g. Attar-Schwartz, Tan, Buchanan, Flouri, & Griggs, 2009; Henderson, Hayslip, Sanders & Loudon, 2009). The role of the older generation for remarried partners and their children during and after family reconfigurations thus appears especially crucial. Nevertheless, divorce typically reduces grandparental involvement, especially from the parents of the non-residing parent, which is usually the biological father (Kruk & Hall, 1995).

#### Previous studies on the subject

According to Darwinian inclusive fitness theory (Hamilton, 1964), all else being equal, individuals are predicted to invest more in their close genetically related kin than non-kin. The hypothesis of kin altruism has been confirmed for different family ties in a wealth of studies. Parents have consistently been found to invest more in biological compared to step-children (e.g. Anderson, 2005; Gurven, Hill, Kaplan, Hurtado, & Lyles, 2000; Gurven, Allen-Arave, Hill, & Hurtado, 2001; Ivey, 2000; Tifferet, Jorev, & Nasanovitz, 2010). The effect is probably mediated by early psychological attachment to a specific child. In addition, genetic relatedness influences sibling relationships, so that full siblings tend to be emotionally closer compared to other sibling constellations (see Pollet & Hoben, 2011 for a review).

Extending this pattern to grandparenting, the few existing studies indicate that biological grandparents tend to invest more in grandchildren than do non-biological grandparents (e.g. Coall, Hilbrand & Hertwig, 2014). By "biological", we here refer to both genetic and adopted

(grand)children, to whom the psychological parental and grandparental attachment processes are quite similar, compared to the relations that develop with a step-child or step-grandchild acquired later in life.

Previous studies suggest that as the number of step-children in the family increases, grandparental investment decreases (Eggebeen, 1992). Both grandparents and grandchildren report their relationship to be better when they are biologically related, compared to the relationship reported by step-grandparents and step-grandchildren (Christensen & Smith, 2002). In studies with data collected among college students, grandchildren reported that biological grandparents showed more affection, availability and support, or provided more advice and guidance, compared to step-grandparents (Block, 2000; Sanders & Trygstad, 1989).

The probably most comprehensive study of the topic is by Lussier, Deater-Deckard, Dunn and Davies (2002) who used a large data set, the Avon family study, and separated grandparental investment by maternal and paternal kin. They found that living with a biological mother and a stepfather reduced the involvement from paternal but not maternal kin. Living with a biological father and a stepmother created the opposite effect, reducing involvement from maternal but not paternal kin. However, their study did not investigate whether the parent had children within the new, present union, and how grandparental investment affected all of that parent's children. Are the biological children of the current couple "penalised" by the presence of children from previous unions?

Here, we investigate whether a child who has step-sibling(s) receives smaller investment from biological grandparents than a child who has only biological sibling(s) or no siblings at all. We ask whether grandparents provide less child care when a "grandchild set" (i.e. the set of children of a

specific adult child) include non-biological grandchildren compared to sets with biological grandchildren only. This question has to our knowledge not previously been explored. Based on previous research and inclusive fitness theory (Hamilton, 1964), we predict that all else being equal, grandparents will invest more in grandchild sets with biological grandchildren only (these different family constellations are drawn in Figures 1 and 2).

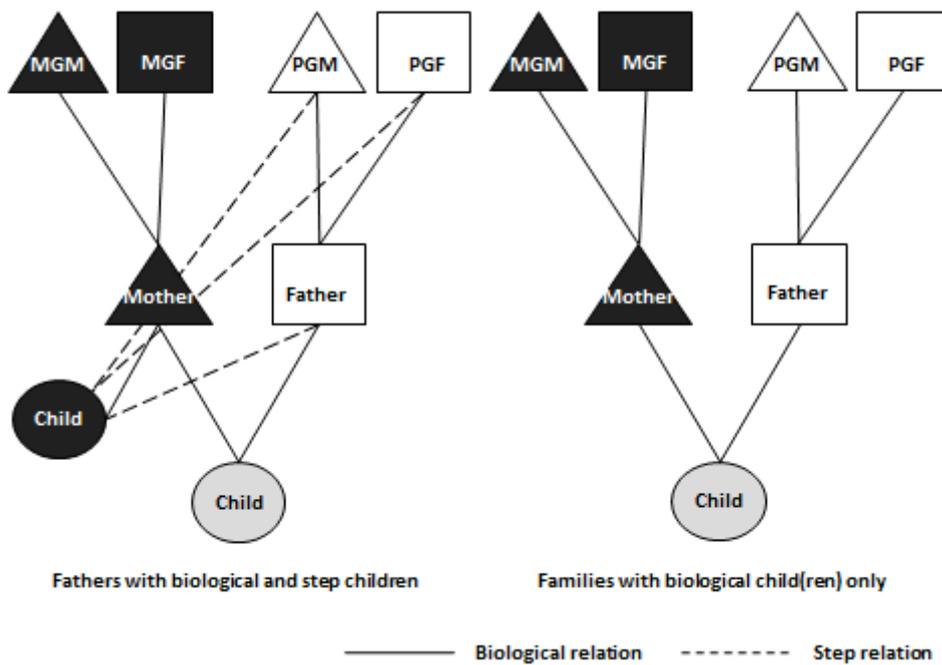


Figure 1. Family types when mothers have children with previous and/or current partner.

*Note:* MGM = maternal grandmother, MGF = maternal grandfather, PGM = paternal grandmother, PGF = paternal grandfather

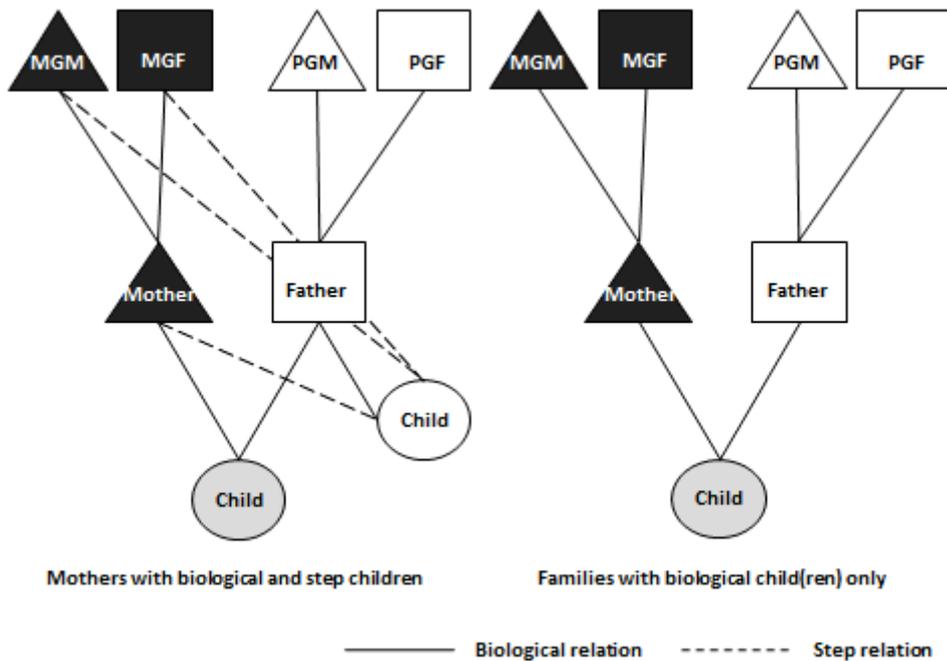


Figure 2. Family types when fathers have children with previous and/or current partner.

*Note:* MGM = maternal grandmother, MGF = maternal grandfather, PGM = paternal grandmother, PGF = paternal grandfather

Our analyses will take into account several potential confounding variables of grandparents, parents, and grandchildren (Coall & Hertwig, 2010; Euler, 2011). First, the age of all members of the three generations are known to influence grandparental investment. Older grandparents tend to invest less than do younger ones (e.g. Baydar & Brooksgunn, 1998; Hank & Buber, 2009). Older parents (or at least mothers) also tend to receive less grandparental child care help compared to younger ones (Fergusson, Maughan, & Golding, 2008). The age of the grandchild also matters, since grandparents invest more in their younger than in their older grandchildren (e.g. Bridges, Roe, Dunn, & O'Connor, 2007; Kivett, 1985; Pollet, Nettle & Nelissen, 2006). In addition, as the parents' number of children increases, grandparental investment per child may decrease (e.g. Coall, Meier, Hertwig, Wänke, & Höpflinger, 2009; Uhlenberg & Hammill, 1998). One of the most robust findings in grandparent studies concerns the influence of geographical distance: grandparental

investment tends to decrease with increasing geographical distance (e.g. Danielsbacka & Tanskanen, 2012; Hank & Buber, 2009; Pollet, Nettle & Nelissen, 2007). Also emotional closeness is positively correlated with grandparental investment behavior (Euler, 2011) which may of course shape other factors, including how close to each other families choose to live. Finally, previous studies show that maternal grandparents tend to invest more in their grandchildren than do paternal grandparents (e.g. Danielsbacka, Tanskanen, Jokela, & Rotkirch, 2011; Euler & Weitzel, 1996; Pollet, Nelissen & Nettle, 2009; Tanskanen, Rotkirch & Danielsbacka, 2011). One of the few exceptions to this pattern has been found for grandchildren living with a stepmother as discussed above (Lussier et al., 2002).

We predict that grandparents invest more in fully biological grandchild sets than in sets including step-grandchildren. Thus we expect parents-in-law to provide more care to fully biological grandchild sets over sets which include at least one child from respondents' previous unions. We study two questions:

1. Do maternal grandparents invest equally and paternal grandparents less in their grandchild set when a mother also has children from a previous union?
2. Do paternal grandparents invest equally and maternal grandparents less in their grandchild set when a father also has children from a previous union?

## **Material and methods**

We use data collected in the Generational Transmissions in Finland (Gentrans) project. It studies kin support between two family generations, the Finnish baby boomers (born in 1945–1950), and

their adult children (born in 1962–1993). The Gentrans project has collected nationally representative surveys from both the older and younger generations. The present study uses only the survey aimed at the younger generation. The reason for this is that the two questionnaires are not identical and only the survey to the younger generation includes information about received grandparental childcare from own parents and parents-in-law, as well as the union and fertility history of the respondent.

This survey was collected by Statistics Finland in spring 2012, via postal mail. The younger generation respondents could also answer the questionnaire online. The survey reached 1,753 individuals (response rate 50%) born between 1962 and 1993 ( $M = 1976$ ,  $SD = 5.6$ ). According to our non-response analysis based on the whole sample ( $n = 3,495$ ) the data was fairly representative, although some groups answered more actively than others. There were higher response rates from women (59%) than men (40%). The age distribution among those who answered compared well to that of the whole sample, with the exception of the youngest age group (under 25-years-old) who had very low response rate (36%). Response rates among those who had children and among those who were childless were fairly similar. However, those who had divorced were not as active to respond (43%) as were those who were married (54%). The difference between respondents and non-respondents was sharpest regarding educational background. Those with highest educational level responded more actively (74%) than did those with only a basic level (30%) and the association was linear. Socio-economic background also mattered. Students and those with higher position were more active to respond than were entrepreneurs (39%), workers (39%) or the unemployed (37%).

For the present study, we selected only cases where the respondent had a partner and had at least one child with that partner. In addition, only respondents whose youngest child was 12 years or

younger at the time of the survey were included, since child care is rarely provided to older children. These selections left us with 760 parent observations in the sample.

The dependent variable measures the investment of respondents' parents and in-laws (i.e. the child's grandparents) through childcare. In the Gentrans survey, respondents were asked to report whether they have received childcare help from their parents and in-laws during the last 12 months (0 = no, 1 = yes). The question was asked separately by sex and lineage (i.e. for the mother, father, mother-in-law, and father-in-law). We do not distinguished between grandparental sex, since we were interested in lineage effects, and the provision of care within grandparental lineage is known to be closely correlated with each other (e.g. Tanskanen, Jokela, Danielsbacka, & Rotkirch, 2014; see Coall & Hertwig, 2010 and responses for discussion).

The main independent variable measures whether the respondents also have children from previous relationships (0 = children only with current partner, 1 = children with current partner and children from previous union). From the grandparents' point of view this variable thus includes information whether the "grandchild set" includes only their biological grandchildren or both biological and step-grandchildren. We lack information about whether the children from previous unions lived in the same household as the responding parent. Thus the grandchildren sets may include children who do not live in the same household. In contemporary Finland, both parents are usually granted shared custody after a divorce. Most children tend to live more with the mother after a divorce (Statistics Finland, 2012), although many children spend at least some time of the month with both of their biological parents and their possible new partners and siblings.

For the analyses the data was reshaped to a long format, so that the observations are the original respondent's parents and in-laws (i.e. the grandparents), resulting in a total of 2,630 observations

(on average 3.5 parents or in-laws per respondent). Logistic regression was used to predict the childcare provided by grandparents and the results were illustrated by calculating the predicted probabilities of childcare by kin lineage from these logistic regression models. Since the data is clustered, we used Stata's statistical software cluster option to compute the standard errors.

We controlled for several potential confounding variables (see descriptive statistics in Table 1). These include the year of birth of the respondents, their youngest child, and their parents or in-laws, respondent's number of children, the geographical distance between respondent and parent or parent-in-law, and the reported emotional closeness between respondent and parent or parent-in-law (ranging from 1 = very close to 5 = very distant). We also controlled for whether the respondent's current partner had children from a previous union. Also the number of children under six years was controlled for, since younger children tend to receive more grandparental care.

Table 1. Descriptive statistics (% / mean)

	Mothers	Fathers
Relatedness (%)		
Children only with current partner	91.1	92.7
Children with current and previous partner	8.9	7.3
Partner has child from previous union (%)		
No	91.7	91.0
Yes	8.3	9.0
Respondent's year of birth (mean)	1975	1974
Maternal working status (%)		
Not working	32.7	32.3
Working	67.3	67.7
Number of children (mean)	2.3	2.1
Number of children under six years (mean)	0.8	0.9
Year of birth of youngest child (mean)	2007	2008
Parents' or in-law's year of birth (mean)	1947	1948
Geographical distance between respondent and parents or in laws (km) (mean)	190.5	150.8
Emotional closeness between respondent and parents or in laws (mean)	2.3	2.3
n (basic data / long-format data)	492 / 1,725	266 / 950

*Note.* Basic data: Relatedness, respondent's year of birth, maternal working status, number of children, number of children under six years, year of birth of youngest child; Long format data: parents' or in-law's year of birth, geographical distance between respondent and parents or in-laws, and emotional closeness between respondent and parents or in-laws

## Results

### *Mothers*

First, we investigated differences in grandparental investment when the mother has children with several partners (Figure 3). The odds that paternal grandparents (i.e. the mother's parents-in-law) provide child care to their grandchild sets are significantly smaller if their daughter-in-law has children with a previous partner (OR = 0.37, SE = 0.13,  $p = .006$ ,  $n = 1,047$ ; predicted probabilities: biological children only 72.1% vs. biological and step children 55.2%). The odds that maternal

grandparents (i.e. the mother’s own parents) provide care are, by contrast, very similar whether the daughter has children with a previous partner or not (OR = 0.73, SE = 0.25, p = .360, n = 1,217; predicted probabilities: 78.6% vs. 74.3%).

In addition to biological relatedness, also some other factors correlate with the mother’s likelihood to receive childcare help from parents and in-laws (see Appendix Table 1). As expected, mothers who are working (OR = 1.88, SE = 0.43, p = .006), have younger children (OR = 1.11, SE = 0.05, p = .011), whose parents-in-law are younger (OR = 1.06, SE = 0.02, p = .000), who live closer to in-laws (OR = 0.999, SE = 0.0002, p < .001), and who are emotionally closer with in-laws (OR = 0.32, SE = 0.03, p < .001) have greater odds to receive childcare help from their parents-in-law. Mothers who have younger children (OR = 1.14, SE = 0.05, p = .002), and who are emotionally closer to her parents (OR = 0.29, SE = 0.03, p < .001) also have greater probability to receive childcare help from own parents.

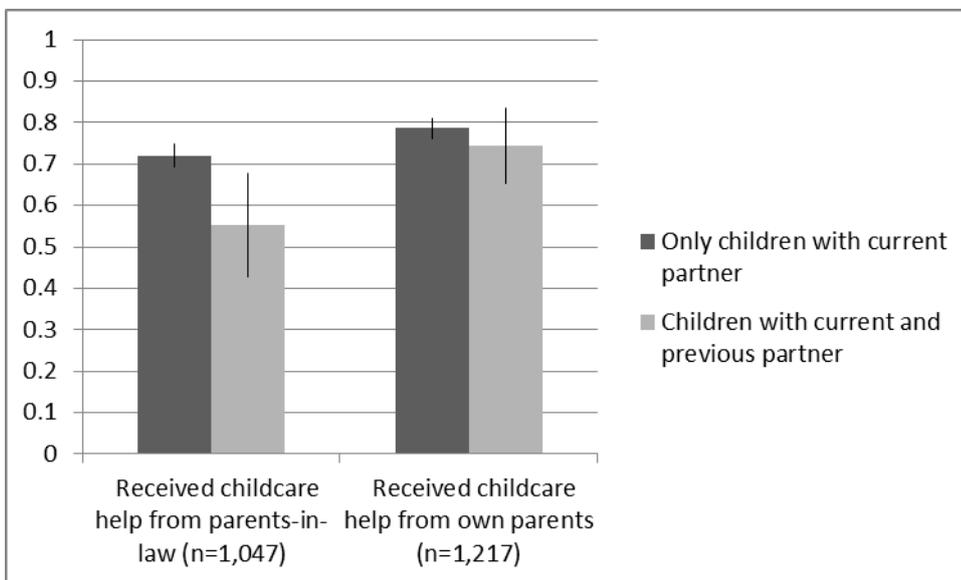


Figure 3. Predicting mothers’ probability to receive childcare help from parents and in-laws by type of fertility (predicted probabilities and 95% confidence intervals)

## Fathers

Next, we studied differences in grandparental investment when it is the father who has children with more than one woman. Results presented in Figure 4 indicate that maternal grandparents (i.e. the father's parents-in-law) have greater odds to invest in their grandchild sets if the son-in-law does not have children with his previous partner. However, the margins are not statistically significant (OR = 0.54, SE = 0.24,  $p = .164$ ,  $n = 856$ ; predicted probabilities: biological grandchild sets 70.6% vs. non-biological sets 60.2%). Paternal grandparents (i.e. the father's own parents) have almost equal odds to invest in their grandchild sets whether the son has children with his previous partner or not (OR = 0.84, SE = 0.35,  $p = .679$ ,  $n = 985$ ; predicted probabilities: biological children only 75.1% vs. biological and step children 72.6%). As was the case for mothers, fathers who have children with only one partner appear to have slightly greater odds to receive child care from their own parents, but the difference is not statistically significant.

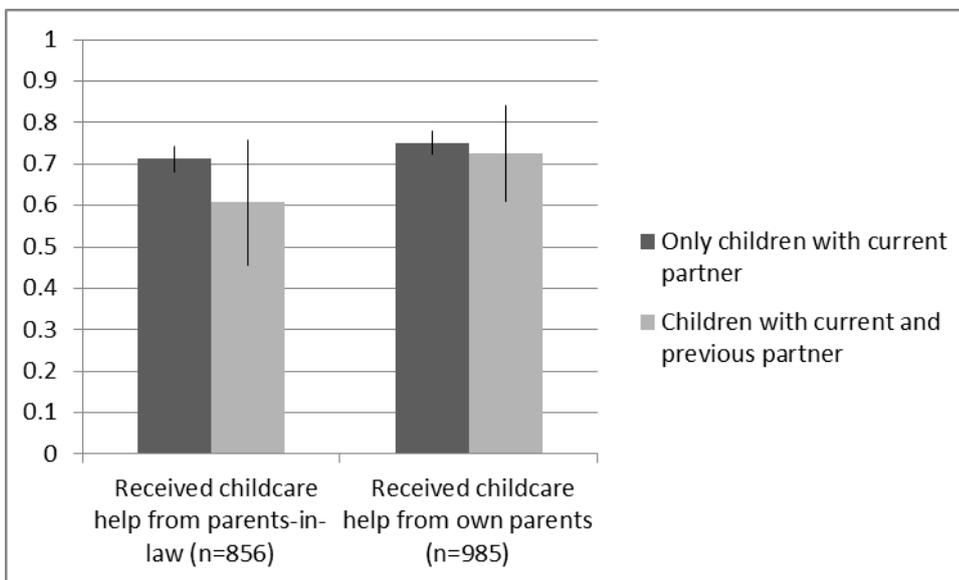


Figure 4. Predicting fathers' probability to receive childcare help from parents and in-laws by type of fertility (predicted probabilities and 95% confidence intervals)

Also in the case of fathers, other factors besides relatedness increase the probability to receive grandparental childcare help (see Appendix Table 2). Fathers who have younger children (OR = 1.12, SE = 0.05,  $p = .009$ ), whose parents-in-law are younger (OR = 1.06, SE = 0.02,  $p < .001$ ), who live closer to their parents-in-law (OR = 0.999, SE = 0.0002,  $p < .001$ ), and who are emotionally closer with their parents-in-law (OR = 0.36, SE = 0.04,  $p < .001$ ) have greater probability to receive childcare help from in-laws. Fathers with younger children (OR = 1.15, SE = 0.05,  $p = .001$ ) or who are emotionally closer with their parents (OR = 0.31, SE = 0.04,  $p < .001$ ) also have greater likelihood to receive childcare help from their own parents.

## **Conclusions**

How is multipartner fertility associated with grandparental investment? Divorces and remarriages alter family relations, and grandparents can provide crucial support during such transitions as well as for grandchild well-being and development in general. Generally, grandparental relations to step-grandchildren are known to be less close compared to those with biological grandchildren. Here, we studied how these grandparental differences vary with the relatedness of grandchildren within the family. We explored this variation with recent, nationally representative data from Finland and measured grandparental investment as provision of child care.

Results showed, as expected by kin selection theory (Hamilton, 1964), that for both sexes the investment from one's own parents did not significantly diminish if there were children from several unions. By contrast, and also as predicted, paternal grandparents invested less in their grandchild sets if a mother (i.e. their daughter-in-law) had children from a previous union. Contrary to our expectations, however, maternal grandparents did not invest significantly less in their grandchildren if a father (i.e. their son-in-law) had children from a previous union. The non-

significant difference for multi-partner fathers may be affected by the small sample size for fathers who had both biological and step-children. It can also be due to the fact that paternal grandparents may find it harder to provide care for the grandchildren from their son's first union, who are typically staying most of their time with their mother.

In Finland four of five children live officially with their mother after divorce, although the vast majority of parents get shared custody of their children after divorce (Statistics Finland, 2012) and the actual amount of time spent with the father varies greatly. Therefore step-grandparenting is most common in a situation with female multipartner fertility. We found that paternal grandparents provide less child care overall to this type of family constellation. The difference is relatively large so that fully biological grandchildren sets would be 31% more likely to receive grandparental care than would grandchildren sets including step-grandchildren.

Our study adds to the scarce number of studies concerning the correlation between grandparental investments in new family constellations. The results are in line with the only previous study which explored grandparental investment with respect to both kin lineage and genetic relatedness (Lussier et al., 2002). They are also in line with predictions from inclusive fitness theory (Hamilton, 1964) and many empirical studies, which illustrate how biological relatedness plays a role in contemporary kin relationships (see Anderson, 2011; Euler, 2011; Pollet & Hoben, 2011 for reviews).

One novelty of our study is that it takes the perspective of the parents and their childbearing and union history. Another is that we show for the first time that the reduction in grandparental investment due to step-grandchildren also concerns the biological children born within the new union. Thus, there appears to be a step-sibling punishment for the child in the current union, so that

grandchildren receive more support from grandparents if they do not have step-siblings.

Interestingly and unexpectedly, there was a tendency also for own parents to diminish support to their multi-partnered children, although it did not reach statistical significance in our data. This possible reduction in grandparental investment following a divorce would merit further investigation.

Previous studies have shown that the development of biological children of two parents who also have children from previous unions may suffer compared to intact nuclear families (e.g. Björklund, Ginther & Sundström, 2007). The reason for this difference is unclear and has been attributed to intensified sibling competition. Our results suggest that also extended family relations may contribute to this difference in developmental outcomes.

Additionally, we found that maternal grandparents were more likely to take care of their grandchildren the younger these children are, the younger the grandparents themselves are, the closer they live to their grandchildren and the emotionally closer their adult daughters and their sons-in-law feel them to be. Paternal grandparents were more likely to provide child care when the mother was working, grandchildren were younger and the emotionally closer their sons and their daughters-in-law feel them to be. These results are in line with previous studies stressing the importance of emotional closeness to your own parents in the transition to the first or second child (Mathews & Sear, 2013a, 2013b; Waynforth, 2011), and for receiving various forms of help including child care (Coall & Hertwig, 2010).

The relationship between a grandparent and a grandchild is almost inevitably mediated by an intervening parent. Hence, grandparental access to grandchildren should ideally be distinguished from grandparental willingness to invest, a fact which complicates measurements of investment

(Barnett, Scaramella, Neppel, Ontai & Conger, 2010; Pashos & McBurney, 2008; Michalski, 2010).

In our data, reported emotional closeness between a parent and a grandparent was positively associated with received grandparental child care. In addition, other family relations might influence the dynamics studied here. For example, the children from a parent's previous union might have a third set of grandparents, who may also want to be involved and thus may exclude the step-grandparents investigated in this study. Our data lacked information on the involvement of ex-partners and his or her kin in child care and thus we could not explore these factors.

Other limitations to our study include the lack information about care provided to specific grandchildren, and the age of the other grandchildren (although the children from previous unions are naturally older than the children from the present union). Neither do we have information on the residence of the children from current or previous unions, although most of them can be expected to live with the concerned parent at least occasionally. Finally, we do not have information about when the grandparents entered the step-grandchildren's life.

Future studies could investigate whether the reduction in grandchild care following divorce and repartnering is also reflected in other forms of grandparental investment, such as financial assistance and emotional support. Since grandparental support is important to both the parents of small children and the children themselves, social and family policy initiatives should aim at providing more advice and support in order to strengthen extended kin relations across the family life course.

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## References

Anderson, K. G. (2005). Relatedness and Investment in Children in South Africa. *Human Nature*, 16, 1–31.

Anderson, K.G. (2011). Stepparenting, Divorce, and Investment in Children. In C. Salmon, & T. K. Shackelford (Eds.), *The oxford handbook on evolutionary family psychology* (pp. 97–112). New York: Oxford University Press.

Attar-Schwartz, S., Tan, J-P., Buchanan, A., Flouri, E., & Griggs, J. (2009). Grandparenting and adolescent adjustment in two-parent biological, lone-parent, and step-families. *Journal of Family Psychology*, 23, 67–575.

Barnett, M. A., Scaramella, L. V., Neppl, T. K., Ontai, L., & Conger, R. D. (2010). Intergenerational Relationship Quality, Gender, and Grandparent Involvement. *Family Relations*, 59, 28–44.

Baydar, N., & Brooks-Gunn, J. (1998). Profiles of grandmothers who help care for their grandchildren in the United States. *Family Relations*, 47, 385–393.

Björklund, A., Ginther, D. K., & Sundström, M. (2007). Family structure and child outcomes in the United States and Sweden. *Journal of Population Economics*, 20, 83–201.

- Block, C.E. (2000). Dyadic and gender differences in perceptions of the grandparent–grandchild relationship. *International Journal of Aging and Human Development*, 51, 85–104.
- Bridges, L. J., Roe, A. E. C., Dunn, J., & O'Connor, T. G. (2007). Children's perspectives on their relationships with grandparents following parental separation: A longitudinal study. *Social Development*, 16, 539–54.
- Christensen, F., & Smith, T. (2002). What is happening to satisfaction and quality of relationships between step/grandparents and step/grandchildren? *Journal of Divorce & Remarriage*, 37, 117–133.
- Coall, D. A., & Hertwig, R. (2010). Grandparental investment: Past, present, and future. *Behavioral and Brain Sciences*, 33, 1–59.
- Coall, D. A., & Hertwig, R. (2011). Grandparental investment: a relic of the past or a resource for the future? *Current Directions in Psychological Science*, 20, 93–98.
- Coall, D. A., Hilbrand, S., & Hertwig, R. (2014). Predictors of Grandparental Investment Decisions in Contemporary Europe: Biological Relatedness and Beyond. *PLoS ONE*, 9, e84082.
- Coall, D. A., Meier, M., Hertwig, R., Wänke, M., & Höpflinger, F. (2009). Grandparental investment: The influence of reproductive timing and family size. *American Journal of Human Biology*, 21, 455–463.

Danielsbacka, M., & Tanskanen, A. O. (2012). Adolescent grandchildren's perceptions of grandparents' involvement in UK: An interpretation from life course and evolutionary theory perspective. *European Journal of Ageing*, 9, 329–341.

Danielsbacka, M., Tanskanen, A. O., Jokela, M., & Rotkirch, A. (2011). Grandparental child care in Europe: Evidence for preferential investment in more certain kin. *Evolutionary Psychology*, 9, 3–24.

Eggebeen, D. J. (1992). Family structure and intergenerational exchanges. *Research on Aging*, 14, 427–447.

Euler, H. A. (2011). Grandparents and extended kin. In C. Salmon, & T. K. Shackelford (Eds.), *The Oxford handbook of evolutionary family psychology*. New York: Oxford University Press.

Euler, H. A., & Michalski, R. L. (2008). Grandparental and extended kin relationships. In C. Salmon, & T. K. Shackelford (Eds.), *Family relationships: An evolutionary perspective* (pp. 230–256). New York: Oxford University Press.

Euler, H. A., & Weitzel, B. (1996). Discriminative grandparental solicitude as reproductive strategy. *Human Nature*, 7, 39–59.

Fergusson, E., Maughan, B., & Golding, J. (2008). Which children receive grandparental care and what effect does it have? *Journal of Child Psychology and Psychiatry*, 49, 161–169.

Gurven, M., K. Hill, H. Kaplan, A. M. Hurtado, & R. Lyles (2000). Food Transfers among Hiwi Foragers of Venezuela: Tests of Reciprocity. *Human Ecology*, 28, 171–218.

Gurven, M., W. Allen-Arave, K. Hill, & A. M. Hurtado (2001). Reservation Food Sharing among the Ache of Paraguay. *Human Nature*, 12, 273–297.

Hamilton, W. D. (1964). The genetical evolution of social behaviour (I and II). *Journal of Theoretical Biology*, 7, 1–52.

Hank, K., & Buber, I. (2009). Grandparents caring for their grandchildren: Findings from the 2004 Survey of Health, Ageing, and Retirement in Europe. *Journal of Family Issues*, 30, 53–73.

Henderson, C. E., Hayslip, B. Jr., Sanders, L. M., & Louden, L. (2009). Grandmother-grandchild relationship quality predicts psychological adjustment among youth from divorced families. *Journal of Family Issues*, 30, 1245–1264.

Hrdy, S. B. (2009). *Mothers and others. The evolutionary origins of mutual understanding*. Harvard: University Press.

Ivey, P. K. (2000). Cooperative Reproduction in Ituri Forest Hunter-Gatherers: Who Cares for Efe Infants? *Current Anthropology*, 41, 856–866.

Lussier, G., Deater-Deckard, K., Dunn, J., & Davies, L. (2002). Support across two generations: Children's closeness to grandparents following parental divorce and remarriage. *Journal of Family Psychology*, 16, 363–376.

Kaptijn, R., Thomese, F., van Tilburg, T. G., & Liefbroer, A. C. (2010). How grandparents matter. Support for the cooperative breeding hypothesis in a contemporary Dutch population. *Human Nature*, 21, 393–405.

Kivett, V. R. (1985). Grandfathers and grandchildren: Patterns of association, helping and psychological closeness. *Family Relations*, 34, 565–571.

Kruk, E., & Hall, B. L. (1995) The Disengagement of Paternal Grandparents Subsequent to Divorce. *Journal of Divorce and Remarriage*, 23, 131–147.

Mathews, P., & Sear, R. (2013a). Does the kin orientation of a British woman's social network influence her entry into motherhood? *Demographic Research*, 28, 313–340.

Mathews, P., & Sear, R. (2013b). Family and fertility: Kin influence on the progression to a second birth in the british household panel study. *PLoS ONE*, 8, 1–10.

Michalski, R. L. (2010). Measures of grandparental investment as a limiting factor in theoretical and empirical advancement. *Behavioral and Brain Sciences*, 33, 32–33.

Pashos, A., & McBurney, D. H. (2008) Kin relationships and the caregiving biases of grandparents, aunts, and uncles. *Human Nature*, 19, 311–330.

Pollet, T. V., & Hoben, A. D. (2011). An Evolutionary Perspective on Siblings: Rivals and Resources. In C. Salmon, & T. K. Shackelford (Eds.), *The oxford handbook on evolutionary family psychology* (pp. 128–148). New York: Oxford University Press.

Pollet, T. V., Nelissen, M., & Nettle, D. (2009). Lineage based differences in grandparental investment: Evidence from a large British cohort study. *Journal of Biosocial Science*, 41, 355–379.

Pollet T. V., Nettle D., & Nelissen M. (2006). Contact frequencies between grandparent and grandchildren in a modern society: estimates of the impact of paternity uncertainty. *Journal of Cultural and Evolutionary Psychology*, 4, 203–213.

Pollet, T. V., Nettle, D., & Nelissen, M. (2007). Maternal grandmothers do go the extra mile: factoring distance and lineage into differential contact with grandchildren. *Evolutionary Psychology*, 5, 832–843.

Sanders, G.F., & Trygstad, D.W. (1989). Stepgrandparents and Grandparents. The View from Young Adults. *Family Relations*, 36, 71–75.

Sear, R., & Coall D.A. (2011). How Much Does Family Matter? Cooperative Breeding and the Demographic Transition. *Population and Development Review*, 37, 81–112.

Statistics Finland (2012). *Families*. Helsinki: Statistics Finland.

Tanskanen, A. O. (2013). The Association between Grandmaternal Investment and Early Years Overweight in the UK. *Evolutionary Psychology*, 11, 417–425.

Tanskanen, A. O., & Danielsbacka, M. (2012). Beneficial Effects of Grandparental Involvement Vary by Lineage in the UK. *Personality and Individual Differences*, 53, 985–988.

Tanskanen, A. O., Jokela, M., Danielsbacka, M., & Rotkirch, A. (2014). Grandparental Effects on Fertility Vary by Lineage in the United Kingdom. *Human Nature*, 25, in press.

Tanskanen, A. O., Rotkirch, A., & Danielsbacka, M. (2011). Do grandparents favor granddaughters? Biased grandparental investment in UK. *Evolution and Human Behavior*, 32, 407–415.

Thomese, F., & Liefbroer, A. C. (2013). Child Care and Child Births: The Role of Grandparents in the Netherlands. *Journal of Marriage and Family*, 75, 403–421.

Tifferet S., Jorev, S., & Nasanovitz, R. (2010). Lower parental investment in stepchildren: The case of the Israeli “Great Journey”. *Journal of Social, Evolutionary, and Cultural Psychology*, 4, 62–67.

Uhlenberg, P., & Hamill, B.G. (1998). Frequency of grandparent contact with grandchild sets: Six factors that make a difference. *Gerontologist*, 38, 276–285.

Waynforth, D. (2011). Grandparental investment and reproductive decisions in the longitudinal 1970 British cohort study. *Proceedings of the Royal Society of London Series B: Biological Sciences*, 279, 1155–1160.

Appendix Table 1. Predicting grandparental child care help by children's, parents' and grandparents' characteristics: Mothers' odds to receive help from own parents and in-laws (odds ratio)

	Model 1: From in-laws	Model 2: From parents
Relatedness		
Children only with current partner (ref.)	1.00	1.00
Children with current and previous partner	0.37**	0.73
Partner has child from previous union		
No (ref.)	1.00	1.00
Yes	0.86	1.09
Respondent's year of birth	1.00	1.00
Maternal working status (%)		
Not working (ref.)	1.00	1.00
Working	1.88**	1.01
Number of children	0.96	0.98
Number of children under six years	0.86	0.72
Year of birth of youngest child	1.11*	1.14**
Parents' or in-law's year of birth	1.06***	1.01
Geographical distance between respondent and parents or in laws	0.999***	1.00
Emotional closeness between respondent and parents or in laws	0.32***	0.29***
-2 Log Likelihood	966.36	983.62
Nagelkerke R <sup>2</sup>	0.35	0.33
n	1,047	1,217

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

Appendix Table 2. Predicting grandparental child care help by children's, parents' and grandparents' characteristics: Fathers' odds to receive help from own parents and in-laws (odds ratio)

	Model 1: From in-laws	Model 2: From parents
Relatedness		
Children only with current partner (ref.)	1.00	1.00
Children with current and previous partner	0.54	0.84
Partner has child from previous union		
No (ref.)	1.00	1.00
Yes	0.74	1.06
Respondent's year of birth	0.97	1.00
Maternal working status (%)		
Not working (ref.)	1.00	1.00
Working	0.85	1.55
Number of children	1.03	0.97
Number of children under six years	0.78	0.82
Year of birth of youngest child	1.12**	1.15**
Parents' or in-law's year of birth	1.06***	1.00
Geographical distance between respondent and parents or in laws	0.999***	1.00
Emotional closeness between respondent and parents or in laws	0.36***	0.31***
-2 Log Likelihood	837.37	880.36
Nagelkerke R <sup>2</sup>	0.30	0.31
n	856	985

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$