The dilution of parents' non-material resources in stepfamilies: the role of complex sibling configurations

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It has been argued that an increase in the number of siblings means that a smaller share of the parental resources is available per child (the resource dilution hypothesis) (Blake, 1989; Downey, 1995). Despite the popularity of the resource dilution hypothesis, the literature is challenged by a heated causality debate and inconclusive results. More recently, a fruitful approach to increase our understanding of the mixed results has emerged. This strand of the literature stresses the context dependency in sibship size effects. So far, scholars have focused mainly on macro level moderators, such as welfare state policies and the presence of (religious) communities (Gibbs, Workman, & Downey, 2016; Park, 2008). However, another source of potential heterogeneity in sibship size effects, which operates on a micro level, is often still overlooked: family structure. Accompanying the rising divorce rate, multi-partner fertility has become increasingly common. One of the potential consequences of these demographic changes is that many children grow up with half and stepsiblings in the family. In other words, a growing group of children has a more complex and diverse group of siblings. Remarkably little is known on how this has changed the role of sibship size.

It is likely that an unequal distribution of resources is especially endemic in stepfamilies. We distinguish two main mechanisms that shape the dilution of parental resources in stepfamilies. The first argument for parents to invest resources in children is based on the biological bond between them. Evolutionary theory suggests that parental investments are a manifestation of an human instinct to increase children's survival chances and (reproductive) success (Emlen, 1995; Schnettler & Steinbach, 2011). Moreover, the importance of a biological tie is reflected in societal norms that regulate our day-to-day behaviour. The prevalence of such norms is confirmed in empirical studies which show that the perceived obligations towards biological family members are stronger in comparison to stepfamily members, even when controlled for the years in coresidence (Ganong & Coleman, 2006; van Houdt, Kalmijn, & Ivanova, 2018). Alternatively, it has been argued that parental investments are driven by opportunity structures (i.e., coresidence) and strengthened by the kinkeeping role of women in the family. A simple but accurate description of a kinkeeper is the person in the family who makes sure that family members keep in touch with each other (Rosenthal, 1985). This task is strongly gendered and mostly fulfilled by female members of the family (Di Leonardo, 1987). When parents divorce, the father will no longer benefit from the kinkeeping role of the mother (Kalmijn, 2013). Yet, if fathers remarry, a new potential kinkeeper enters their life. An important difference is that this new kinkeeper, the biological father's second partner, will mainly reinforce the ties with the (biological and step) children in his new marriage. Based on the kinkeeping mechanism, we expect fathers to invest more in the children of their new union than in the children of the first union. In contrast, mothers focus, as also predicted based on the biology mechanism, on their own biological children while they are less likely to invest in their stepchildren. This pattern is strengthened by common coresidence arrangements. It could be argued that the opportunity structure for investments is more favourable if parents and children live together. In the birth cohorts we study (1971-1991), a large majority of the children lived with their mother after divorce. This means that the fathers often live in the household with the children of their second union (paternal half and stepsiblings of the respondents) while they do usually not live in the same households as our respondents and their full siblings (born in the first union). Mothers live with their biological offspring of both unions but are less likely to live with their stepchildren. Finally, we take spacing between siblings in stepfamilies into account. If parents get children with multiple partners, it is more likely that the children of the first and second union differ substantially in age. Hence, large age differences between siblings are more common in stepfamilies than in intact families. To take large age differences into account we distinguish between siblings who have overlapping childhoods with our respondents and siblings whose childhood did not overlap with the childhood of our respondents.

We combine the dataset *Parents and Children in the Netherlands* (Ouders en Kinderen in Nederland; OKiN) with Dutch administrative data. We focus in this study on the dilution of non-material resources, such as time, attention and energy parents spend on their children. In line with previous studies in the literature on social and human capital in families we use indicators of parental involvement to measure the presence of such non-material resources (McNeal, 1999; Teachman, Paasch, & Carver, 1997). Birth certificates were used to find all siblings in Dutch administrative data. First, we detected both biological parents and the stepparents who were present at age 15. We select two separate samples to study the involvement of the father and the mother. For the analysis of the non-material investments by the mother, we select all respondents who had a stepfather at age 15 (N = 1,369). When the resources invested by the father are studied, we apply a similar logic and select all respondents who had a stepmother at age 15 (N = 1,077). It is plausible that the distributions of paternal and maternal involvement are not independent. To take this into account we use seemingly unrelated regression to allow the error terms of the equation for maternal and paternal involvement to be correlated. An additional advantage of this approach is that it enables a direct significance test of the differences in coefficients of the sibling variables in the analysis in paternal and maternal involvement to test our synthesis hypothesis.

The main results are presented in Table 1. Overall, the results are in line with the biology and kinkeeping mechanism. Moreover, the dilution is strongest when both mechanisms – biology and kinkeeping - predict dilution and weaker when only one of the mechanisms hypothesizes a dilution of resources. The only deviant finding is the absence of an association between the number of half siblings and maternal involvement. This finding suggests no dilution due to the presence of maternal half siblings despite the existence of a biological bond as well as coresidence and a kinkeeping tie. Yet, it could be argued that this finding matches other studies on compensatory behaviour by mothers in the divorce literature. Previous scholars have shown that high educated mothers are able to compensate for negative consequences of divorce for children's the well-being and educational attainment (Bernardi & Boertien, 2017; Fischer, 2007; Mandemakers & Kalmijn, 2014). It is possible that a this compensatory behaviour is also activated during other changes in the family structure that might harm the well-being of the child, such as the birth of a half sibling. An important implication of the results is that siblings dilute the resources of both parents differently. While mothers seem to use their resources to protect the children of her first marriage, fathers seem to make other decisions about the distribution of their resources. All sibling types – full, half and step – dilute the resources of the father and this suggests that father tend to spend at least some resources on all types of children. Altogether, this study provides the first comprehensive overview of how sibship size and complex sibling configurations in stepfamilies are associated to non-material parental investments in children. With this approach this study does not only add to the literature on sibship size effects but also increases our understanding of the disadvantages children might encounter in post-divorce family structures.

Table 1 Seemingly unrelated regression on parental involvement

	Model 1		**Model 2**		
	Maternal involvement		**Paternal involvement**		**Difference**
	Coef.	S.E.	Coef.	S.E.	
Female (=1)	0.179**	0.052	-0.114+	0.058	***
Age respondent (centered)	-0.010*	0.005	-0.030***	0.006	**
Education parent in years	0.076***	0.011	0.084***	0.010	
Full siblings	-0.266***	0.032	-0.116**	0.037	***
Half siblings					*
Maternal	-0.046	0.037			
Paternal			-0.152***	0.032	
Stepsiblings (maternal)					**
Maternal	0.006	0.023			
Paternal			-0.082**	0.028	
Constant	-0.178	0.186	-0.423**	0.178	
Full siblings vs. Half siblings	***				
Full siblings vs. Stepsiblings	***				
Half siblings vs. Stepsiblings			*		
N	1,369		1,077		

Notes: Δ indicates that the difference between coefficients is statistically significant using $p < 0.10$
$^{+}p < 0.1$ $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

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