

Division of Childcare in Two-Biological-Parent and Step-Parent Households: Importance of Parental Gender and Type of Partnership

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Abstract

In contrast to previous, single-gender studies on step-parents' participation in childcare, I use the pooled Generations and Gender Survey to address the following questions: (i) Is there a gender difference in the potential divergence in how childcare is organized in two-biological-parent and step-parent households (i.e. are there larger differences between type-of-mother and type-of-father families)? and (ii) Does the type of partnership (marital/non-marital cohabitation) matter for how childcare is divided in step-parent households and if it does, does it matter more for step-mothers or step-fathers? The findings from the country-level fixed-effect models show that whereas the difference between type-of-father households is negligible, the gap between type-of-mother households is significantly larger, particularly, in non-marital cohabitations. The findings are more pronounced for the division of physical (e.g. taking care of child when sick) than interactive (e.g. helping child with homework) tasks. The proposition is put forward that these findings stem from the higher ambiguity which surrounds the parenting role of step-mothers compared to that of step-fathers.

Introduction

Western countries have witnessed a growth in the instability of marriages and cohabitations over the past several decades which has been combined with high rates of re-partnering (Sweeney, 2010; Thomson, 2014). As the majority of relationship dissolutions involve couples with at least one minor child, this adult sequential monogamy has resulted in an increasing number of children spending at least part of their lives residing with a step-parent (Manning and Smock, 2000; Berger *et al.*, 2008). A lot of the interest in these stepfamilies has focused on the adjustment of the children raised in these partnerships with the somewhat consistent message that

they fare worse off than children raised by never-divorced parents (Coleman, Ganong and Fine, 2000).

A possible explanation for the negative association between living with a step-parent and child well-being is the difference in participation of parents in the provision of care for non-biologically related children (Thomson, Hanson and McLanahan, 1994; McLanahan and Sigle-Rushton, 2002). A number of publications have investigated this claim, rendering mixed results. The majority of previous research has suggested that step-fathers, for example, are indeed less engaged with resident children than biological fathers, a phenomenon labelled the 'stepgap' (Becker *et al.*, 2013). Others, however, have

reported no differences between fathers once individual characteristics were controlled for (Hofferth and Anderson, 2003; Carlson, McLanahan and Brooks-Gunn, 2008). Research on step-mothers has primarily focused on the quality of their relationships with resident children rather than on their specific engagement in child-rearing (King, 2007).

Earlier studies on step-parents' behaviours in households have predominantly examined either the differences between fathers or the difference between mothers (i.e. the main effect of type of parent). In other words, the discussion has primarily focused on the importance (or lack thereof) of biological relatedness between parents and children, which could convey the tacit assumption that the mechanisms operate similarly for mothers and fathers. As elaborated in the subsequent sections, though some of the proposed mechanisms for the described stepgap can be viewed as gender-neutral (e.g. the primacy of biology; Emlen, 1997; Daly and Wilson, 2000), others do not lead to the same conclusions (e.g. the 'maternal gatekeeping' of a biological mother in a step-father household; Fagan and Barnett, 2003). Therefore, I first address this outstanding issue by examining if the potential difference in the division of childcare tasks between two-biological-parent and step-parent households is, indeed, universal or rather, gender specific (i.e. is there a larger difference between biological mother and step-mother households than between biological father and step-father households).

In addition to addressing if and why children could be disadvantaged when raised with step-parents, researchers have also examined under what conditions the potential discrepancies in parenting practices between intact and non-intact households are minimized. The proposition has been put forward that institutions which lessen the inherent ambiguities which exist within stepfamilies can mitigate the observed stepgap. Indeed, a limited number of previous studies have shown that married step-fathers display higher-quality parenting behaviours than their unmarried counterparts (Berger *et al.*, 2008). This article builds upon these step-father studies to consider if the same attenuated stepgap can be observed for married step-mother households.

In summary, this study examines the share of childcare that step- and biological parents perform, while paying specific attention to potential differences between step-father and step-mother families. In line with earlier studies on the intra-household division of childcare, the focus is on two types of activities—physical (e.g. taking care of sick child) and interactive (e.g. helping the child with homework; Craig, 2006; Gracia, 2014). The first aim of this study is to investigate

whether the difference between mothers is more or less pronounced than between fathers. Subsequently, it is examined whether marriage (vis-à-vis non-marital cohabitation) is associated with a smaller difference in the division between types of households and particularly so, for type of mother households. One of the unique aspects of this contribution is the fact that, in contrast to previous studies, the large analytical sample allows us to perform direct comparisons between step-mother and step-father households.

Theoretical Mechanisms and Prior Research

Dividing Childcare: Main Effect of Type of Parenthood

The rich literature on parental involvement with children has clearly demonstrated its positive impact on children's subsequent developmental outcomes (Hofferth and Sandberg, 2004; for a more detailed discussion, see Bianchi, 2000). Therefore, with the proliferation of stepfamilies, significant effort has been directed towards understanding if and how step-parents differ from biological parents when it comes to the child-rearing of their non-biologically related children. Different mechanisms have been discussed by diverse strands of literature. One stream of research has emphasized the importance of genetic relatedness for the parent-child relationship (*primacy of biology*): biological parents have a vested interest in ensuring that the offspring carrying their own genes are successful (Emlen, 1997; Daly and Wilson, 2000). In other words, in a household with two biological parents, both partners have an evolutionary motivation to ensure their child's advancement, whereas that is not the case in a household with a step-parent. Other strands of literature, however, have demonstrated that genetic relatedness is not necessarily the deciding factor but rather, for example, the length of coresidence between the parent and the child (*primacy of residence*; Becker *et al.*, 2013). Stated differently, step-parents are less prominent in the care for their resident children because of the shorter common history that they share with the children compared to resident biological parents. Still other researchers have argued that differences between step and biological parents can be observed not because of causal mechanisms but rather due to negative selection *into* this parental status. In other words, it is the less 'attractive' on the mating market individuals who are selected into the potentially less appealing role of a step-parent (e.g. lower-income earners, lower educated; Hofferth and Anderson, 2003; Carlson *et al.*, 2008). It is in turn

those factors that are associated with lower participation in childcare rather than type of parenthood *per se*.

Though these strands of literature approach the difference between step and biological parents from different angles, what they have in common is the interest in the main effect of type of parenthood. The studies which have examined parents' contributions to childcare have primarily, if not exclusively, focused on the comparison of fathers (Thomson *et al.*, 1992; Carlson and Berger, 2013). The lack of attention to potential gender differences has been chiefly driven by the lack of large enough samples of step-mother households. However, as argued below, the underlying mechanisms may not operate similarly for step-fathers and step-mothers.

Dividing Childcare: Type of Parenthood and Gender

Competing expectations can be formulated as to whether larger differences will be observed between two-biological-parent households and step-mother or step-father households. On the one hand, a larger discrepancy could be found between type-of-father than between type-of-mother households because of the role of the resident biological parent (a biological mother in the former case and a biological father in the latter). Despite evidence of gradual change over the course of the past decade, strong societal norms persist about the primacy of women in the performance of childrearing tasks (Thompson and Walker, 1989; Coltrane, 2000). As a result of these collective beliefs about the appropriate childcare roles of men and women, mothers can in fact limit fathers' opportunities to engage in tasks which are deemed a woman's realm of responsibility (termed 'maternal gatekeeping'; Fagan and Barnett, 2003). Previous studies on (biological) fathers' participation in childcare have demonstrated that maternal gatekeeping does indeed inhibit men's input (Gaunt, 2008). It can be postulated that this mechanism will be even *more* pronounced when the other resident parent is not only a father but also a non-biologically related to the child father figure. In other words, in line with the mechanism of maternal gatekeeping by the resident biological mother, it can be expected to find larger discrepancies in childcare division between type-of-father than between type-of-mother households (H1a).

Alternatively, however, a larger discrepancy could be observed between mothers due to the higher ambiguity which surrounds the role of a step-mother than that of a step-father. Step-mothers are confronted with harsh stereotypes, more so than step-fathers (e.g. the 'evil step-mother' stereotype; Sweeney, 2010). The step-mother

role is particularly ambiguous, as they face the powerful societal ideal about the primacy of the biological mother (Weaver and Coleman, 2005). These stereotypes can have negative repercussions for how step-mothers see their function, rights, and responsibilities within families, thus marginalizing them within the family system (Claxton-Oldfield, 2000). Indeed, as other authors have demonstrated, the integration of a non-biological mother into a family is more challenging than the integration of a non-biological father (Ihinger-Tallman, 1988), and step-mothers do report heightened levels of parenting stress (Shapiro and Stewart, 2011). In other words, in line with this social norm about the primacy of the *biological* mother in childcare, larger discrepancies in childcare division can be expected between type-of-mother than between type-of-father households (H1b).

Dividing Childcare: Type of Parenthood and Type of Partnership

One of the elements that clearly set step-parent households apart is the heightened level of ambiguity which surrounds these households. In his highly influential study, Cherlin (1978) posited that part of the challenges which stepfamilies face stem from the fact that remarriage is in fact an 'incomplete institution'. Whereas roles and responsibilities are well-defined and ascribed in families with two biological parents, those in stepfamilies have to be acquired in the context of unclear boundaries and with little support from other institutions. Therefore, earlier studies have investigated the role which marriage might play in mitigating uncertainty for step-fathers in particular (Berger *et al.*, 2008). Legalizing a partnership through marriage indicates an 'enforceable trust' (Cherlin, 2004) and signifies that the household is a cohesive family unit, with rights and obligations for both partners. Indeed, previous publications have shown that married step-fathers do not invest less in the resident non-biological children than married biological fathers (Berger *et al.*, 2008; Carlson and Berger, 2013) and that, at least for fathers, primacy of marriage over biology can be observed when it comes to relations with children (Kalmijn, 2013). Therefore, smaller differences in the division of childcare are expected between married than between non-married two-biological-parent and step-parent households (H2).

Building upon earlier investigations of stepfamilies, this study also examines if the documented marital/non-marital cohabitation difference is more pronounced for step-mother households. As argued before, the integration of step-mothers in families is especially challenging,

with their rights and obligations being particularly ambiguous (Ihinger-Tallman, 1988; Claxton-Oldfield, 2000). Following the line of reasoning about marriage as an ambiguity-diminishing institution, it can be postulated that it will be in the circumstances of highest ambiguity that the largest differences between step- and two-biological-parent households will be observed (i.e. stepmothers living with the biological father in a non-marital cohabitation). In other words, the final hypothesis is that the difference between marital and non-marital cohabitations in the division of care will be most pronounced for type-of-mother households (H3).

It is important to mention here that the difference between marital and non-marital cohabitations may not be the result of the causal impact of type of union. The higher similarity between step- and biological parents in marriages could in fact be the result of more engaged step-parents getting selected into marriage. A specific examination of the causal impact of marriage on step-parents is not the aim of this study; the ambition at this point is to focus on the significance of gender in step-parenthood.

Data and Methods

The data used in this study come from the Generations and Gender Survey (GGS; United Nations, 2005). A detailed description of the survey's design, scope, and aims can be found in Vikat *et al.* (2007). The GGS is as a panel study of nationally representative samples of individuals (ages of 18–79 years), living in (mainly) European countries. Utilized here is the first wave, which included information on the division of childcare tasks between the respondents and their partners, collected during structured face-to-face interviews in the respondents' homes. To maximize the sample of step-parents, the data from all (mainly) European countries were harmonized and pooled (Austria, Belgium, Bulgaria, Czech Republic, Estonia, France, Georgia, Germany, Hungary, Italy, Lithuania, Norway, Poland, Romania, Russian Federation, Sweden, and the Netherlands). Detailed information about each country's sample can be found in Fokkema *et al.* (2016).

The number of respondents in the pooled data was 182,087, and the partnership status could be determined for 181,813 individuals ($n = 115,693$ living with a partner). The presence of children in the household was determined by the household roster, created with the help of the explicit question, 'I would like to ask you about all persons who live in this household. Who are they? To help me keep track of your answers, please tell me their first names and how they are related to you'.

Of those living with a partner, 39.5 per cent did not live with any children in the household. The analytical sample was further restricted by the fact that the division of childcare tasks was only reported in the cases when the respondent had at least one resident child younger than 14 years. For reasons, which will be elaborated on later, the sample was restricted to individuals, living with a partner in a household which included either (i) only biological children of both partners or (ii) only biological children of the respondent (i.e. the partner is a step-parent) or of the partner (i.e. the respondent is a step-parent). For reasons elaborated on further, also excluded were 2,317 respondents who lived with at least one child under the age of 14 years but were in a blended family (i.e. a household with a mix of common and step-children). The final analytical sample was 38,973 respondents (4.1 per cent step-parent households). Detailed descriptive information about the sample is presented in Table 1. Information about the blended families is provided in Supplementary Appendix A.

Variable Definitions

Division of childcare tasks. The respondents who lived with a partner and at least one child under the age of 14 years were provided with a list of childcare tasks. These tasks were (i) dressing the children or seeing that the children are properly dressed; (ii) putting the children to bed and/or seeing that they go to bed; (iii) staying at home with the children when they are ill; (iv) playing with the children and/or taking part in leisure activities with them; and (v) helping the children with homework. The respondents were asked who in the household performed these tasks on a scale from 1 = *always respondent* to 5 = *always partner*. As the focus was on the division of tasks between the partners, the cases when other persons in/outside the household performed the tasks were excluded. An additional reason to omit the 'outsourcing the care' option was that not all countries provided the answer category 'always or usually someone not living in the household' (e.g. Estonia). Importantly, also excluded were the cases when the children carried out the tasks themselves (i.e. I only focused on how care was divided when the *need* for care existed).

The questions were not asked per child in the household. This meant that, in a family which included both biological and stepchildren, it was unclear whether the respondent was averaging the participation over all children or reporting only on the tasks performed with own children. In other words, these households could not help to test the hypotheses about division of care

Table 1. Descriptives of variables used in multivariate analyses, $N = 38,973$

Variable	Households with two biological parents, $N = 37,380$		Households with a social parent, $N = 1,593$	
	<i>n</i>	<i>M (SD)/per cent of responses</i>	<i>n</i>	<i>M (SD)/per cent of responses</i>
Parental involvement in physical tasks ^{a **}	32,886	3.01 (1.16)	1,414	2.31 (0.95)
Parental involvement in interactive tasks ^{a **}	31,903	3.00 (0.84)	1,382	2.65 (0.79)
The report is about a mother (reference = about a father)**	37,380	50.2 per cent	1,593	23.0 per cent
The partnership is a non-marital cohabitation (reference = marriage)**	37,333	14.6 per cent	1,587	58.5 per cent
Involvement is reported by the other parent (reference = self-reported)**	37,380	50.0 per cent	1,593	70.0 per cent
Age of youngest child in household**	37,380	6.06 (4.11)	1,593	8.35 (3.74)
Age of the parent whose involvement is reported (in decades)	37,339	3.64 (0.72)	1,578	3.63 (0.80)
Number of children in the household**	37,380		1,593	
One child (reference)		36.0 per cent		56.1 per cent
Two children		46.4 per cent		33.5 per cent
Three children or more		17.6 per cent		10.4 per cent
Educational level of the parent whose involvement is reported**	36,702		1,513	
No education, (pre-)primary, lower secondary		15.4 per cent		17.1 per cent
Upper secondary		46.0 per cent		49.4 per cent
Post-secondary, non-tertiary		9.6 per cent		10.2 per cent
Tertiary (reference)		29.0 per cent		23.3 per cent
Educational level of the other parent**	36,350		1,523	
No education, (pre-)primary, lower secondary		15.1 per cent		16.9 per cent
Upper secondary		46.8 per cent		47.9 per cent
Post-secondary, non-tertiary		9.6 per cent		11.6 per cent
Tertiary (reference)		28.6 per cent		23.6 per cent

Notes: ^a1 = the other parent does it all the time to 5 = the focal parent does it all the time. *The households with two biological parents and those with a step-parent differ significantly at $P < 0.05$; **the households with two biological parents and those with a step-parent differ significantly at $P < 0.01$.

explicitly in the case of own vs. stepchildren. In the selected households, one could be certain that the respondent was reporting on how the care for *either* biological or stepchildren was divided.

In summary, the analytical sample included families where all children were (i) biological children of both partners; (ii) stepchildren of the partner, and (iii) stepchildren of the respondent. The second category of households was included to increase the number of step-parent families. For the families in the first and third categories, I recoded the questions so that 1 = *always partner* and 5 = *always respondent*. To clarify, a higher value on the dependent variable corresponded to higher share of care for the parent of interest (i.e. a biological parent for the two-biological-parent households and step-parent for the rest). To ensure that the mix of self- and partner-reported behaviour was not present only for the step-parent households, half of the two-biological-parent households were selected (at random), and the data for the partner rather than the self-reported

information of the respondent were utilized. Table 2 clarifies the coding.

The fact that blended households were excluded could mean that only more 'recent' stepfamilies were captured (i.e. stepfamilies in which the partners had not yet made the transition to a common child). I could account for this possible selection by controlling for the partnership duration. However, this duration was highly correlated with the age of the youngest resident child ($r = 0.63$ for the analytical sample). As the age of the youngest child was an important control variable, I opted not to control for the duration of the partnership. Additional analyses, which included both age of youngest child and the duration of partnership, as well as only the duration of the partnership rendered essentially identical findings (see Supplementary Appendices D–G).

The following items were grouped into a scale, titled 'physical care': dressing the children, putting the children to bed, and taking care of the children when ill ($\alpha = 0.90$; $M = 2.97$, $SD = 1.16$ for whole analytical

Table 2. Recoding of childcare tasks^a

Type of household	1	5	Whose involvement is reported after recoding
Only biological children			
Half of households ^b	Always partner	Always respondent	Self-reported biological parent's involvement (i.e. respondent)
Half of households ^b	Always respondent	Always partner	Other-reported biological parent's involvement (i.e. partner)
Only respondent's children	Always respondent	Always partner	Other-reported step-parent's involvement (i.e. partner)
Only partner's children	Always partner	Always respondent	Self-reported step-parent's involvement (i.e. respondent)

Note: ^aOriginal coding: 1 = *always respondent* to 5 = *always partner*; ^bSelected at random.

sample); the items playing with the children and helping with homework were grouped into a scale, titled 'interactive care' (Pearson $r = 0.46$; $M = 2.99$, $SD = 0.85$ for whole analytical sample). These scales closely resemble the measures used by previous studies on the division of childcare (Craig, 2006; Gracia, 2014).

Information about the parents. The coding of the type of parent reported on, was based on the type of resident children. In the households with only biological children of both partners, a biological parent's share of care was reported (coded as 0). In households with step-children, the step-parent's share was reported (coded as 1). The gender of the parent was coded as 0 = *father* and 1 = *mother*. The respondents provided information about their own and the partner's age and about their own and their partner's highest attained educational level. The information about educational level was harmonized across the countries and coded as 1 = *No education, (pre)primary, lower secondary*; 2 = *Upper secondary*; 3 = *Post-secondary, non-tertiary*; and 4 = *Tertiary* (see Table 1).

Information about the partnership. The type of partnership was coded as 0 = *marriage* and 1 = *non-marital cohabitation*. A control variable was included for the number of children (of any age) who were listed as household members (0 = *one child*; 1 = *two children*; 2 = *three children or more*). Finally, I controlled for the current age of the *youngest* resident child.

Empirical Strategy

Separate models were estimated for the division of the physical and interactive care. As the respondents were clustered within countries, country-level fixed-effect linear regression models were estimated. This approach did not allow to examine how the main associations could vary in line with country-specific characteristics (e.g. the different meaning of cohabitation; Perelli-Harris *et al.*, 2014) but rather controlled for these differences. The decision was taken to ensure a large enough count in each

category of interest. However, as a robustness check for potential influential cases, all models were estimated excluding a single country at a time (see Appendices H–L). The substantive findings remained unchanged.

The research questions were addressed by including interactions between the type of parent to whom the report referred (biological or step-parent) and (H1) the gender of that parent (mother or father); (H2) the type of partnership (marriage or non-marital cohabitation); and (H3) a three-way interaction with gender of the parent and type of partnership. To facilitate the interpretation, the predicted values for the dependent variables are graphed.

All models included important control variables. First, I controlled for age of the youngest resident child. An argument can be made that a more appropriate approach would have been to split the analyses by the age of the youngest offspring. However, this was not possible due to sample size restrictions. Even after pooling all countries, the number of step-mother households was 367. Further checks showed that the valid cases for physical tasks and for interactive task reported for a step-mother household, with a youngest child aged less than or equal to 5 years, were 89 and 88, respectively. This cell count became even more restricted if one were to consider the type of partnership (see Supplementary Appendix B). As the main interest was on the interactions between type of parent and (H1) gender, (H2) type of union, and (H3) on gender and type of union, I decided that splitting the sample by age of the youngest child would severely undermine the ability to detect possible differences. In other words, it would be difficult to discern if any potential lack of statistically significant findings was the result of a true lack of differences or due to the prohibitively low cell counts. Therefore, all analyses were run with all children pooled and controlling for the age of the youngest resident child.

Additionally, I controlled for the highest attained educational level of *both* partners in the household. This decision was driven by earlier findings that the reported

division of childcare is also the product of the parents' characteristics, particularly, their educational levels (Hofferth, 2006; Gracia and Ghysels, 2016). An additional consideration here was the possible negative selection of less 'attractive' on the mating market individuals into the role of a step-parent (Hofferth and Anderson, 2003). An additional check was carried out to examine if the potential differences between biological and step-parent households were gender specific. As can be seen in Supplementary Appendix C, the differences between fathers and mothers followed precisely the same pattern. Furthermore, as the report of participation in childcare tasks can be subject to social desirability (especially among higher-educated parents; Hofferth, 2006), I also controlled for whether the division was self-reported or reported by the other partner. Finally, a control was included for the age of the parent whose involvement was reported and the number of children that lived in the household.

Though an important factor to consider in the study of how parents divide childcare, no control variable for employment status was included in the analyses. This decision was driven by the fact that though the GGS included a basic question on the respondents' current activity status, not all countries included the additional questions about the precise type of employment (i.e. part-time or full-time), number of hours worked, or type of current occupation. Additionally, not all countries enquired about the current activity status of the partner. As these are precisely the factors likely to determine the amount of time available and flexibility a parent has to perform childcare, the choice was made not to include this factor in the analyses.

Results

The findings for the analyses concerning potential gender differences in the division of childrearing tasks in two-biological-parent households and step-parent households are displayed in Table 3. To remind the reader, a higher value on the dependent variable corresponded to higher share of care for the parent of interest. As can be seen in the main effect models (1 and 3), there were significant differences in how the physical and interactive tasks were divided in the two types of households. However, the statistically significant differences were not large. Not surprisingly, mothers were significantly and substantially more likely than their partners to carry out both the physical and the interactive tasks (the performance of physical tasks differing to the magnitude of nearly two points).

Key for this study are the interaction terms displayed in Models 2 and 4, which were significant for both physical and interactive tasks. For ease of interpretation, the margins are plotted in Figure 1 (physical tasks) and Figure 2 (interactive tasks). As can be seen in Model 2 and Figure 1, the difference in how care was divided was significant both for households featuring a step-mother, as well as those with a step-father. The difference in the division was more pronounced in the case of step-mother vs. biological mother households ($b = -0.42$, standard error, $SE = 0.04$, 95 per cent $CI [-0.51$ to $-0.34]$) than between type-of-father households ($b = -0.05$, $SE = 0.02$, 95 per cent $CI [-0.10$ to $-0.01]$). The findings for the division of interactive tasks can be found in Model 4 and Figure 2. In this case, the division of care only differed significantly (but not substantially) between step-mother vs. biological mother households ($b = -0.22$, $SE = 0.04$, 95 per cent $CI [-0.30$ to $-0.13]$). In summary, in line with hypothesis *H1b*, the division of childcare in step-father households resembled much closer than step-mother households the division in two-biological-parent households.

The subsequent question addressed the importance of marriage for step-parent households. The findings are displayed in Table 4, with the interactions plotted in Figure 3 (physical tasks) and Figure 4 (interactive tasks). In both cases, if the partners were married, the division of care in step-parent households did not differ from that in two-biological-parent households. When the partners were not married, the division of tasks differed between the two types of households ($b = -0.25$, $SE = 0.03$, 95 per cent $CI [-0.31$ to $-0.20]$ for physical tasks and $b = -0.13$, $SE = 0.03$, 95 per cent $CI [-0.19$ to $-0.07]$ for interactive tasks). What is important to note here is that an additional check showed that this difference was found even after controlling for the duration of the partnership (see Supplementary Appendices D–G). In other words, the findings are not precipitated by the duration of coresidence between parent and child(ren). These findings support the expectations outlined in *H2* that marital step- and two-biological-parent households are more similar than non-marital households.

This partnership finding was investigated further by examining whether it was more pronounced for mothers or fathers. The results from the models, which included the three-way interaction between type of parent, type of partnership, and gender of the parent, can be found in Table 5 and Figure 5A and 5B (physical tasks) and Figure 6A and 6B (interactive tasks). The three-way interaction was only significant for physical tasks. Though a significant difference could be observed

Table 3. Division of physical and interactive childcare tasks and gender: estimates from country-level fixed-effects models

	Model 1		Model 2		Model 3		Model 4	
	Physical: main effects		Physical: gender interaction		Interactive: main effects		Interactive: gender interaction	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
Step-parent (reference = biological parent)	-0.14**	(0.02)	-0.05*	(0.02)	-0.07**	(0.02)	-0.02	(0.02)
A mother (reference = father)	1.75**	(0.01)	1.76**	(0.01)	0.85**	(0.01)	0.86**	(0.01)
Interaction: gender of the parent X type of parent			-0.37**	(0.05)			-0.20**	(0.05)
Controls								
Non-marital cohabitation (reference = marriage)	-0.01	(0.01)	-0.02	(0.01)	0.00	(0.01)	-0.00	(0.01)
Reported by the other parent (reference = self-report)	-0.26**	(0.01)	-0.26**	(0.01)	-0.19**	(0.01)	-0.19**	(0.01)
Number of children in the household (reference = one child)								
2 children	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
3+ children	0.02	(0.01)	0.02	(0.01)	0.02	(0.01)	0.02	(0.01)
Age of the parent whose involvement is reported (in decades)	-0.03**	(0.01)	-0.03**	(0.01)	-0.03**	(0.01)	-0.03**	(0.01)
Age of the youngest resident child in the household	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Educational level of the parent whose involvement is reported (reference = tertiary)								
No education, (pre-)primary, lower secondary	0.17**	(0.02)	0.18**	(0.02)	-0.02	(0.02)	-0.02	(0.02)
Upper secondary	0.07**	(0.01)	0.07**	(0.01)	-0.02	(0.01)	-0.02	(0.01)
Post-secondary, non-tertiary	0.08**	(0.02)	0.08**	(0.02)	0.02	(0.02)	0.02	(0.02)
Educational level of the other parent (ref. = tertiary)								
No education, (pre-)primary, lower secondary	-0.13**	(0.02)	-0.13**	(0.02)	0.02	(0.02)	0.02	(0.02)
Upper secondary	-0.06**	(0.01)	-0.06**	(0.01)	0.00	(0.01)	0.00	(0.01)
Post-secondary, non-tertiary	-0.04*	(0.02)	-0.04*	(0.02)	0.00	(0.02)	0.01	(0.02)
Constant	2.34**	(0.03)	2.33**	(0.03)	2.76**	(0.03)	2.75**	(0.03)
N	33,057		33,057		32,198		32,198	
R ²	0.60		0.61		0.29		0.29	

Note: * $P < 0.05$; ** $P < 0.01$.

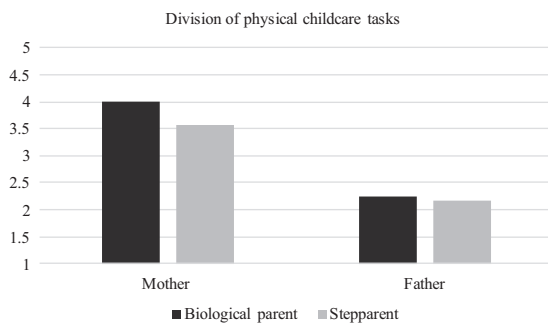


Figure 1. Plot of estimated margins for physical tasks at representative values^a for interaction between type of parent and gender of the parent, Model 2, Table 3

Notes: ^aSelf-reported involvement, in a marriage, a household with one child, two parents with tertiary education, all continuous variables at mean.

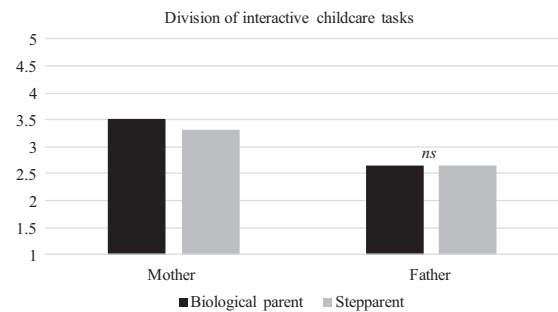


Figure 2. Plot of estimated margins for interactive tasks at representative values^a for interaction between type of parent and gender of the parent, Model 4, Table 3

Notes: ^aSelf-reported involvement, in a marriage, a household with one child, two parents with tertiary education, all continuous variables at mean.

Table 4. Division of physical and interactive childcare tasks and type of partnership: estimates from country-level fixed-effects models

	Model 1		Model 2		Model 3		Model 4	
	Physical: main effects		Physical: partnership interaction		Interactive: main effects		Interactive: partnership interaction	
	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
A step-parent (reference = biological parent)	-0.14**	(0.02)	-0.01	(0.03)	-0.07**	(0.02)	0.00	(0.03)
Non-marital cohabitation (reference = marriage)	-0.01	(0.01)	0.00	(0.01)	0.00	(0.01)	0.01	(0.01)
Interaction: type of partnership X type of parent			-0.24**	(0.04)			-0.13**	(0.04)
Controls								
Report is about a mother (reference = father)	1.75**	(0.01)	1.75**	(0.01)	0.85**	(0.01)	0.85**	(0.01)
Reported by the other parent (reference = self-report)	-0.26**	(0.01)	-0.26**	(0.01)	-0.19**	(0.01)	-0.19**	(0.01)
Number of children in the household (ref. = one child)								
2 children	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)	0.00	(0.01)
3+ children	0.02	(0.01)	0.02	(0.01)	0.02	(0.01)	0.02	(0.01)
Age of the parent whose involvement is reported (in decades)	-0.03**	(0.01)	-0.03**	(0.01)	-0.03**	(0.01)	-0.03**	(0.01)
Age of the youngest resident child in the household	0.00	(0.00)	0.00*	(0.00)	0.00	(0.00)	0.00	(0.00)
Educational level of the parent whose involvement is reported (reference = tertiary)								
No education, (pre-)primary, lower secondary	0.17**	(0.02)	0.17**	(0.02)	-0.02	(0.02)	-0.02	(0.02)
Upper secondary	0.07**	(0.01)	0.07**	(0.01)	-0.02	(0.01)	-0.02	(0.01)
Post-secondary, non-tertiary	0.08**	(0.02)	0.08**	(0.02)	0.02	(0.02)	0.02	(0.02)
Educational level of the other parent (reference = tertiary)								
No education, (pre-)primary, lower secondary	-0.13**	(0.02)	-0.14**	(0.02)	0.02	(0.02)	0.02	(0.02)
Upper secondary	-0.06**	(0.01)	-0.06**	(0.01)	0.00	(0.01)	0.00	(0.01)
Post-secondary, non-tertiary	-0.04*	(0.02)	-0.04*	(0.02)	0.00	(0.02)	0.00	(0.02)
Constant	2.34**	(0.03)	2.34**	(0.03)	2.76**	(0.03)	2.76**	(0.03)
N	33,057		33,057		32,198		32,198	
R ²	0.60		0.60		0.29		0.29	

Note: *P < 0.05; **P < 0.01.

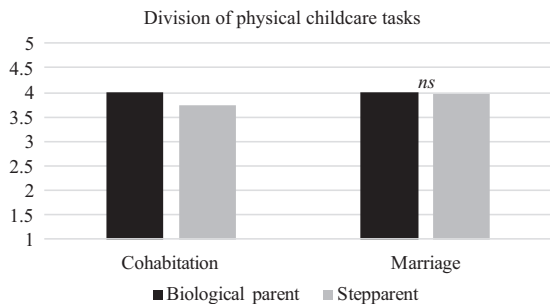


Figure 3. Plot of estimated margins for physical tasks at representative values^b for interaction between type of parent and type of partnership, Model 2, Table 4
Notes: ^bSelf-reported involvement of a mother, a household with one child, two parents with tertiary education, all continuous variables at mean.

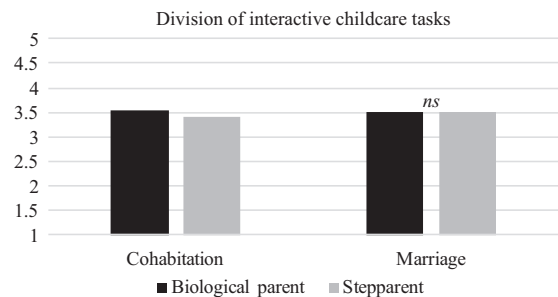


Figure 4. Plot of estimated margins for interactive tasks at representative values^b for interaction between type of parent and type of partnership, Model 4, Table 4
Notes: ^bSelf-reported involvement of a mother, a household with one child, two parents with tertiary education, all continuous variables at mean.

Table 5. Division of physical and interactive childcare tasks, type of partnership, and parent gender: estimates from country-level fixed-effects models

	Physical: 3-way interaction		Interactive: 3-way interaction	
	Coefficient	SE	Coefficient	SE
A step-parent (reference = biological parent)	0.07	(0.04)	0.05	(0.04)
Non-marital cohabitation (reference = marriage)	0.04*	(0.02)	0.07**	(0.02)
A mother (reference = father)	1.77**	(0.01)	0.87**	(0.01)
Interaction: type of parent X type of partnership	-0.25**	(0.05)	-0.17**	(0.05)
Interaction: type of parent X gender of parent	-0.24**	(0.07)	-0.14*	(0.07)
Interaction: type of partnership X gender of parent	-0.07**	(0.02)	-0.12**	(0.02)
Interaction: type of parent X type of partnership X gender of parent	-0.44**	(0.11)	-0.18	(0.10)
Controls				
Reported by the other parent (reference = self-report)	-0.26**	(0.01)	-0.19**	(0.01)
Number of children in the household (reference = one child)				
2 children	0.00	(0.01)	0.00	(0.01)
3+ children	0.02	(0.01)	0.02	(0.01)
Age of the parent whose involvement is reported (in decades)	-0.03**	(0.01)	-0.03**	(0.01)
Age of the youngest resident child in the household	0.00	(0.00)	0.00	(0.00)
Educational level of the parent whose involvement is reported (reference = tertiary)				
No education, (pre-)primary, lower secondary	0.17**	(0.02)	-0.02	(0.02)
Upper secondary	0.07**	(0.01)	-0.02	(0.01)
Post-secondary, non-tertiary	0.08**	(0.02)	0.02	(0.02)
Educational level of the other parent (reference = tertiary)				
No education, (pre-)primary, lower secondary	-0.14**	(0.02)	0.02	(0.02)
Upper secondary	-0.06**	(0.01)	0.00	(0.01)
Post-secondary, non-tertiary	-0.04*	(0.02)	0.00	(0.02)
Constant	2.33**	(0.03)	2.75**	(0.03)
N	33,057		32,198	
R ²	0.61		0.29	

Note: * $P < 0.05$; ** $P < 0.01$.

between biological and step-mother households in both marital and non-marital cohabitations, the magnitude of this difference was significantly larger when the partnership was *not* a marriage ($b = -0.18$, $SE = 0.06$, 95 per cent $CI [-0.28$ to $-0.07]$ in marriages and closer to a whole point in cohabitations, namely, $b = -0.86$, $SE = 0.08$, 95 per cent $CI [-1.00$ to $-0.71]$; see Figure 5A and B). In comparison, there was only a small difference between type-of-father households in non-marital cohabitations ($b = -0.18$, $SE = 0.03$, 95 per cent $CI [-0.24$ to $-0.11]$; see Figure 5A and B). Though the three-way-interaction was not significant for the interactive tasks, the estimated values are plotted in Figure 6A and B to show the reader that the direction of the results was similar. In summary, though the division of childcare between partners was more similar for step-parent and two-biological-parent households when the union was marriage, this finding was clearly more

pronounced for step-mother than for step-father households (in line with hypothesis H3).

Though the items used for the dependent variables were measures on a scale from 1 (= *always partner*) to 5 (= *always respondent*), the models were also estimated as ordered logistic models, with each separate item (e.g. bathing the children; helping with homework) used as a dependent variable (coded as 1 = *partner more* (grouping responses 1 and 2 from the original variables), 2 = *balanced*, and 3 = *respondent more* (responses 4 and 5)). The findings from these models were in line with the ones displayed here, namely: (i) the difference between step- and biological-parent households was more pronounced for mothers than fathers; (ii) the difference was more pronounced in non-marital than marital cohabitations; (iii) the largest differences were found between married and non-married mothers; and finally, (iv) the differences between step- and biological parents were

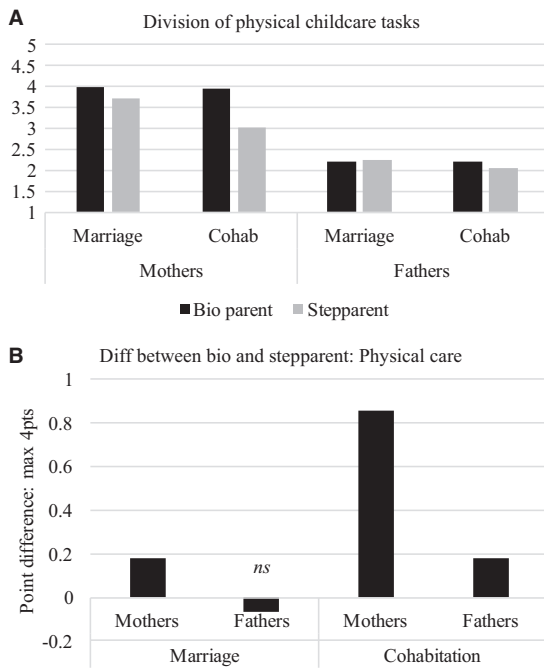


Figure 5. (A) Plot of estimated margins for physical tasks at representative values^c for interaction between type of parent and type of partnership, by parental gender Model 1, Table 5. (B) Point difference between biological and step-parents in the performance of physical tasks, estimates at representative values^c. Notes: ^cSelf-reported involvement, a household with one child, two parents with tertiary education, all continuous variables at mean.

more pronounced for the items from the physical than from the interactive scale.

Discussion and Conclusions

The increasing complexity of family forms has spurred vigorous academic (and popular) interest in the well-being of children raised in non-traditional family arrangements. One of the voiced concerns has been that step-parents could be marginalized in the caregiving for non-biologically related children, which could put these children at a disadvantage (McLanahan and Sigler-Rushton, 2002; Thomson *et al.*, 1994). Earlier studies have focused on the main effect of biological relatedness, using almost exclusively data on fathers (Hofferth and Anderson, 2003; Amato and Sobolewski, 2004; Carlson *et al.*, 2008). This article contributed to this line of inquiry by calling attention to the potential gender differences in the documented disparities between two-biological-parent and step-parent households. By harmonizing and pooling

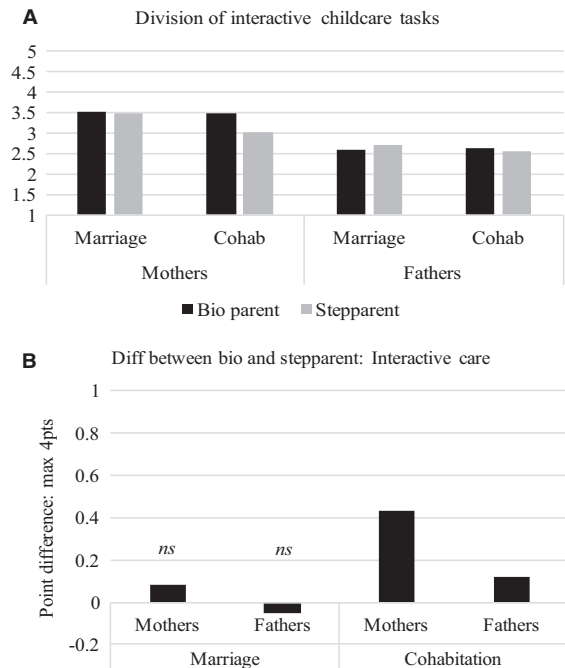


Figure 6. (A) Plot of estimated margins for interactive tasks at representative values^c for interaction between type of parent and type of partnership, by parental gender Model 2, Table 5. (B) Point difference between biological and step-parents in the performance of interactive tasks, estimates at representative values^c. Notes: ^cSelf-reported involvement, a household with one child, two parents with tertiary education, all continuous variables at mean.

a number of countries which participated in the first wave of the GGS, a large enough sample of step-mother households was ensured to address the research questions.

The findings indicated that the difference in how childcare was divided in two-biological-parent and in step-parent households was rather small to begin with. The difference was larger for type-of-mother than for type-of-father families. An interesting point to mention here is that when differences were found between types of households, those were more pronounced for the division of physical, rather than interactive tasks. Given that a lot of the results were driven by the differences between type-of-mother households, it is not surprising that the biggest gap was evident for the tasks which previous publications have already shown to be primarily carried out by women (Craig, 2006; Gracia, 2014). Furthermore, when differences could be found, those were almost exclusively only present in non-marital

cohabitations. Married step-parent and two-biological-parent households rarely differed. This ‘partnership difference’ was substantially more pronounced for type-of-mother families. In other words, the largest difference between biological and step-parent households was found when the mother was not married to the biological father of the child. Taken together, I interpret these findings as pointing towards the challenges that ambiguity can pose in stepfamilies.

A focal argument made in the studies of stepfamilies has been that that part of the challenges which stepfamilies face stems from their incomplete ‘institutionalization’ (Cherlin, 1978). Whereas roles and responsibilities are well-defined and ascribed in families with two biological parents, those in stepfamilies have to be acquired in a context of unclear boundaries. This challenge could be particularly taxing for step-mothers. As earlier studies have pointed out, step-mothers are confronted with harsher stereotypes than step-fathers (Shapiro and Stewart, 2011). The influential societal ideal about the focal role of biological mothers for children (Weaver and Coleman, 2005) could make the responsibilities of step-mothers especially difficult to discern clearly. The findings here indicate that this challenge for step-mothers might be somewhat smaller in a context where a clearer ‘signal’ about the status of the household as a ‘proper family’ exists, namely, when the step-mother and the biological father are married.

Several alternative explanations for these findings can be postulated. Foremost, I could not control for the participation in childcare of the non-resident biological parent which can be (negatively) associated with the step-parent’s share of care. It is possible that the larger gap between types of mothers than between types of fathers (i.e. the significant interaction between type and gender of the parent) is due to the relationship between the child and the non-resident biological mother. Other studies have demonstrated that the quality of child–step-parent relationship is *negatively* correlated with the quality of child–biological parent relationship for mothers but not for fathers. In other words, the higher the quality of relationship with one’s biological mother, the lower the quality of relationship with one’s step-mother (which was not the case for fathers; Ivanova, 2015).

Furthermore, we need to consider the possibility of reverse causality when it comes to the link between type of partnership and parental childcare. I suggested that the difference between marriages and non-marital cohabitations might be more pronounced for step-parents because it helps diminish some of the ambiguity which surrounds the role of the step-parent. Alternatively, however, it is also possible that the lack of differences

between married step- and biological households is the result of a positive selection *into* this type of partnership. In other words, it may be the most actively participating in childcare prior to the marriage step-parents who end up married to the biological parent. Following this line of argument, we can explain the more pronounced significance of type of partnership for step-mothers. Given the persistent societal norms about the primacy of women in the child-rearing (Thompson and Walker, 1989; Coltrane, 2000), less active step-fathers may still be likely to transition to a marital union with a biological mother because of the lower expectation that he will carry out childcare tasks to begin with. Uninvolved step-mothers, however, may be deemed as unattractive partners by the biological fathers and thus, not be likely to transition to a marital union. A proper examination of a true partnership *effect* requires the use of longitudinal data on step-parents’ behaviours of prior to and following a marriage. The GGS includes longitudinal data for several of the participating countries; however, given the count of step-mothers in particular, using these panel data was not possible.

Related to the abovementioned point, we need to also consider the degree to which the findings might be driven by the *negative* selection of individuals into the role of a step-parent. As shown in the descriptive statistics, step-parents were somewhat lower educated than biological parents, which is in line with previous studies which have discussed the negative selection of individuals into step-parenthood (Hofferth and Anderson, 2003; Carlson *et al.*, 2008). It is, therefore, possible that it is these factors that are associated with lower participation in childcare rather than type of parenthood *per se*. Though the establishment of a causal link was not the ambition of the current contribution, a more rigorous examination of the true parenthood *effect* can benefit from, for example, implementing propensity score matching on a range of individual characteristics to observe if the gap between types of parents can still be found.

Finally, a possible reason for the few differences between fathers is the fact that men are still not matching women in child-rearing (possibly even less so, in some of the more intimate tasks examined here such as taking care of a sick child). In other words, the lack of significant differences between fathers could be due to a ‘floor effect’ for paternal participation. This ‘floor effect’ might be particularly pronounced here due to the operationalization of parental involvement (i.e. relative-to-the-other-parent participation rather than absolute amount of time). However, it is important to point out that other studies, which have implemented different operationalizations of parental involvement (i.e. *frequency* of activity

participation), have also reported that children living with a married step-father are not disadvantaged compared to those living with a married biological father (Carlson and Berger, 2013). In other words, the findings about fathers displayed here are very much in line with previous studies which have utilized alternative specifications of parental participation in care.

The primary objective of this contribution was to examine gender differences in the previously documented stepgap. The findings indicate that, by and large, the discrepancies between types of households, though statistically significant, were not substantial. The only larger difference was found between types mothers in non-marital cohabitations. Though the mechanisms underscoring these differences was not explicitly tested, I postulate that the main finding could be driven by the heightened level of ambiguity surrounding the role of step-mothers, particularly in partnerships which do not necessarily include any legal arrangements between the partners. Subsequent studies will benefit from examining how step-parents' interactions with non-biological children might change over time, in particular, in response to specific changes in the partnership between the coresiding partners.

Supplementary Data

Supplementary data are available at ESR online.

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