

Fathers' Child Care Involvement and Children's Age in Spain: A Time Use Study on Differences by Education and Mothers' Employment

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Abstract: Using time-diary data from the '2003 Spanish Time Use Survey' (N=2,941), I analysed two critical questions related to child development and gender equity. First, how do fathers of different levels of education adjust their parenting activities to their children's developmental needs? Second, how does the mother's employment affect paternal engagement associated with distinct time demands and gendered practices? The main contribution of the study is the empirical focus on three different subsamples of married fathers with children in distinct age categories, a proxy of children's developmental needs, and households' child care demands. There were three main empirical results of the study: (i) In couples with children aged 0–5 years, the father's education had a significant positive effect on his physical care (i.e. feeding, bathing, and watching over), when these activities are determinant for children's future well-being; (ii) In couples where the youngest child was aged 3–5 years, a developmental stage in which cognitive development critically depends on parents' intellectual stimulation, education was significantly correlated with father's interactive care, especially in teaching activities; (iii) Mother's employment had a strong positive effect on fathers' physical care in families with children under school age, when these activities are central for gender equality in the home.

Introduction

Paternal involvement is associated to two critical sociological dimensions: child development and gender equality (Bianchi, Milkie, & Robinson, 2006; Pleck, 2010). The study of fathers' child care involvement is thereby essential to better understand the well-being of individuals from different generations. Using cross-sectional time use data for partnered fathers from Spain, in the present study I provide new empirical evidence on how paternal involvement varies across social and demographic groups. I examine two main questions. First, I analyse how fathers of different educational backgrounds engage in parenting activities that foster child development at different life stages. Second, I explore the links between mother's employment and fathers' child care in families with children at different developmental stages.

The main contribution of my study is the specific focus on how father's child care time varies across families with children of different ages. Although previous studies on paternal engagement considered the age of children in the home as a control variable, scholars rarely conceptualized children's life stages as a central unit of analysis. Unlike in previous studies, I stress the importance of considering children's age to better understand how fathering diverges across the population. The age of the child has been stressed as a central indicator of child development (Waldfoegel, 2006), but also of partners' child care demands and couple's daily negotiations (Budig & Folbre, 2004). Thus, by exploring differences in father's child care time across families with the youngest child in three distinct life stages (infancy and early toddlerhood; preschool period; mid childhood), I adopt an innovative approach that provides new empirical evidence on how paternal involvement

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varies across families with different resources and time demands.

The first motivation of the article is the relevance of father's child care for *child development*. Both *physical* and *interactive* child care activities capture essential inputs of child development (Pleck, 2010). Physical activities, like medical care, feeding, or changing diapers, are associated with children's basic needs, whereas interactive care is more directly related to children's social and intellectual needs (Bianchi, Milkie, & Robinson, 2006). Yet, the 'ideal' parenting activities for child development vary dramatically across children's developmental stages. In infancy and young toddlerhood (age 0–2 years), basic activities, like feeding and medical care, are essential for children's brain, physical, and behavioural development (Waldfogel, 2006). In the preschool period (age 3–5 years) children's brain becomes more complex for abstract and verbal abilities, when parental engagement in intellectually enriching activities is critical for cognitive development (Gelman, 2008). Finally, in mid childhood (age 6–12 years), children gain autonomy from parents, but parenting activities remain determinant for children's social and intellectual skills (Waldfogel, 2006).

In relation to this first analytical motivation, scholars suggested that highly educated fathers conform more directly to 'child-oriented' norms and practices than lower-educated fathers (Lareau, 2003; Alwin, 2004; McLanahan, 2004; Sayer, Gauthier, & Furstenberg, 2004; Bianchi, Milkie, & Robinson, 2006; Craig, 2006b; Esping-Andersen, 2009; Sullivan, 2010; Bonke & Esping-Andersen, 2011). However, scholars obviated that these educational differences in father's child care time may differ by children's age in ways that capture key variations in child development. Interestingly, the recent study by Kalil, Ryan, & Corey (2012) with American time use data shows an important education gradient in mother's child care time, but especially in how mothers adjust their parental care activities to their children's age-specific developmental needs. To date, however, this empirical question remains understudied and restricted to mothers from the United States, without any study on fathers from other countries.

The second motivation of my study deals with the links between fathers' child care and *gender equity* (Pleck, 2010). The 'new father' is expected to be active in parenting and, in fact, in recent decades fathers have increased significantly their contribution to parental care (Yeung *et al.*, 2001; Bianchi, Milkie, & Robinson, 2006). However, child care remains strongly gendered, especially in physical care activities, like feeding or putting children to bed, the most routine, intensive, and time-inflexible ones (Craig, 2006a). Scholars have suggested

that these gender inequalities in child care might be reduced when women are employed, as maternal employment may bring fathers to compensate for their wives' time pressures by increasing their child care input (Presser, 1994), and particularly in the most demanding physical activities (Roeters, van der Lippe, & Kluwer, 2009). But the empirical literature shows mixed evidence in this direction; some studies show strong positive correlations between mothers' employment and paternal engagement, but others non-significant effects (Sayer, Gauthier, & Furstenberg, 2004; Kitterød & Pettersen, 2006; Craig & Mullan, 2009; Roeters, van der Lippe, & Kluwer, 2009; Gutierrez-Domenech, 2010; Raley, Bianchi, & Wang, 2012). Unlike in previous research, I contribute to the literature on this inconclusive question by examining how fathers' child care is linked to mothers' employment in couples with children of different age groups. In so doing, my study offers an innovative empirical approach to better understand, not only how mothers' employment is associated with paternal engagement in two activities with distinct implications in the domestic sphere (physical vs. interactive), but also how it varies by children's age, a key indicator of child care demands and gender relations in the home (Budig & Folbre, 2004).

I use data from the '2003 Spanish Time Use Survey' (STUS). This is the best statistical source to answer my empirical questions for the Spanish context. Spain has interesting demographic and institutional characteristics that are stressed in the article. Although some studies have analysed father's child care in Spain (Baizan, Dominguez, & Gonzalez, 2010; Gracia & Bellani, 2010; Gutierrez-Domenech, 2010; Sevilla-Sanz, Gimenez-Nadal, & Fernandez, 2010), this country has received much less attention than others in the literature (i.e. Australia, Britain, the United States), whereas none of the mentioned articles has adopted the analytical approach of the present study.

Education, Father's Child Care, and Child Development

How does father's education affect paternal engagement with potential effects on child development? This first question is motivated by the importance of fathers' child care for children's socio-emotional and cognitive abilities (Pleck, 2010). Father's child care affects child development, either through *physical care* (i.e. feeding, bathing, and medical care) or *interactive care* (i.e. verbal interaction, playing, and teaching). Although fathers tend to specialize in the more 'fun' interactive activities (Craig, 2006a), paternal engagement in physical care, especially

in the early stages of a child's life course, plays a central role in the quality of father-child relations over time and in children's socio-emotional and cognitive abilities (Pleck, 2010; Waldfogel, 2006).

College-educated fathers from different countries were in general found to spend more time in child care than their lower-educated counterparts (Gershuny, 2000; Gauthier, Smeeding, & Furstenberg, 2004; Sayer, Gauthier, & Furstenberg, 2004; Gracia, Ghysels, & Vercammen, 2011; Hook & Wolfe, 2012; Kalil, Ryan, & Corey, 2012). Qualitative studies also suggest that education is an important variable to explain differences in father's child care. For example, in her ethnographic study on American families with children aged 8–10 years, Lareau (2003) found that middle- and upper-class parents (whose jobs require often high levels of human capital) conform to the parenting styles of *concerted cultivation*. This approach to parenting is defined by a frequent engagement in activities that foster children's 'talents', like scheduling various extracurricular activities for children, fostering children's linguistic skills through active involvement, and organizing a wide range of family-orchestrated activities that enrich children's social and human capital. In contrast, working-class parents (who have lower levels of education) conformed to her concept of *natural growth*, assuming that parenting and family activities—in essence—should not conflict with children's free time (Lareau, 2003).

Now, previous studies on how education affects paternal engagement tended to underestimate that parenting activities intersect directly with *children's age*. It is amongst children under school age (0–5), especially infants and toddlers, when physical care is crucial for children's future socio-emotional, physical, and intellectual skills (Waldfogel, 2006). Children aged 3–5 years acquire complex conceptual, social, and linguistic skills that are critically enhanced from parental participation in educational games, intellectual reasoning, or problem solving (Gelman, 2008; Kalil, Ryan, & Corey, 2012). Later on, in primary school (aged 6–12 years), children gain more autonomy from parents, but their human and social capital accumulation remains markedly influenced by active parenting and cognitive stimulation (Lareau, 2003). The original article of Kalil, Ryan, & Corey (2012) with time use data on American mothers integrates this developmental approach. The authors found, firstly, a remarkable education gradient in mother's child care time in families with children under school age, when returns to education are highest (Heckman, 2006); secondly, they found that college-educated mothers disproportionately adjusted their child care time (basic care, playing, teaching, and managerial care) to their children's developmental needs (infancy, young

toddlerhood, preschool period, mid childhood). Their findings suggest that examining how parental involvement varies across child developmental stages is important to understand educational differences in parenting with effects on the intergenerational transmission of human capital. This approach, however, has not been adopted for fathers in other countries, a key question to better understand how father-child interactions diverge across socio-economic groups.

Some studies suggest that fathers with high levels of education may participate more in unpaid work—including child care—for holding more *gender egalitarian values* than lower-educated fathers (Coltrane, 2000). The literature, however, offers mixed evidence on how education, fathering, and gender roles intersect. For example, qualitative studies suggest that distinct masculinities, but not more egalitarian, are adopted by fathers with high levels of human capital (Schrock & Schwalbe, 2009; Shows & Gerstel, 2009). Further, quantitative research with historical data from Britain and the US shows a widening educational gap in child care, but a narrowing gap in housework, which is a particularly female-typed activity (Sullivan, 2010). In this study, the gender normative dimension of child care of fathers cannot be investigated, due to the lack of primary data on preferences and values. Nevertheless, it is important to highlight that fathers that are actively involved in parenting, especially with children under school age, conform to more gender egalitarian practices (Pleck, 2010).

Mother's Employment and Children's Age

How does mothers' employment affect fathers' child care participation? The second question of the article is motivated by the relevance of father's child care engagement for gender equality. Unlike housework, parental care tends to be perceived as an enjoyable activity that promotes children's well-being and family ties (Hallberg & Klevmarken, 2003; Craig, 2006b). But parental care, like housework, is a demanding domestic activity that produces family-work conflicts (Craig & Mullan, 2010). Thus, leaving everything else constant, couples would have more gender egalitarian outcomes when fathers are active in parenting (Pleck, 2010).

Theoretical perspectives on how paternal engagement intersects with mother's employment can be divided in two groups.¹ A first approach assumes that parents' behaviours respond to their partners' (and their own) time constraints. From the *time availability* (Presser, 1994) and *demand/response capacity* (Coverman, 1985)

hypotheses, fathers maximize children's parental inputs by positively reacting to their partners' job pressures. The second approach instead suggests that it is *gender ideology*, rather than parents' opportunity-cost logics, what drives paternal engagement. From this approach, fathers' child care involvement is seen as independent from mother's paid work commitments (Hochschild & Machung, 1989).

To date, the literature has not provided a conclusive answer to the question of how mother's employment affects father's child care time. Scholars found insignificant or weak effects of mother's employment on father's child care in Australia, Britain, Canada, Germany, and Norway (Sayer, Gauthier, & Furstenberg, 2004; Kitterød & Pettersen, 2006; Craig & Mullan, 2009; Hook & Wolfe, 2012), but significant positive correlations were found in Italy, the Netherlands, and Spain (Sayer, Gauthier, & Furstenberg, 2004; Roeters, van der Lippe, & Kluwer, 2009; Gutierrez-Domenech, 2010). Additionally, some studies suggest that, when looking at the most demanding and female-typed activities (physical care), father's child care participation is more strongly correlated with mother's employment than when looking at other child care activities (Roeters, van der Lippe, & Kluwer, 2009; Raley, Bianchi, & Wang, 2012).

The literature has provided useful evidence to better understand the correlation between mother's employment and fathers' child care. However, as mentioned above, previous studies focused on a general sample of residential fathers (i.e. with children aged 0–15). Because child care demands vary dramatically across children's life stages (Budig & Folbre, 2004), scholars could better disentangle under what conditions fathers' child care is coherent with their wives' employment by running separated analyses for couples with children in different age categories. This analytical strategy is particularly suitable to study parenting activities that are linked to gender equity (i.e. physical care in families with infants or toddlers) versus those activities that are 'male-typed' (i.e. playing with an older offspring) (Craig, 2006a; Pleck, 2010).

The Spanish Context

Spain offers an interesting context to investigate variations in father's child care involvement. Spain has, compared with other Western European countries, a traditional division of labour, low rates of female employment (<60%), widespread conservative gender norms, and residual family-work policies (González, Jurado & Naldini, 2000; Geist, 2005; Hook, 2006; Esping-Andersen *et al.*, 2013). Although children's formal education is universal at 3 years of age, child

care coverage rates for Spanish children <3 years old are lower than in most European countries (OECD, 2007). Despite these indicators denoting high levels of family conservatism, Spain has recently undergone dramatic demographic transformations that may incentive the emergence of 'new fathers'. Female employment rates increased by 87% from 1980 to 1998 (Sanchez-Marcos, 2003) and young women have massively entered in tertiary education. Further, Spanish mothers typically work long hours and have inflexible work schedules (Gutierrez-Domenech, 2010), which implies that reconciling paid and unpaid work in Spain is particularly difficult if residential fathers do not participate in child care.

Three studies (Baizan, Dominguez, & Gonzalez, 2010; Gracia & Bellani, 2010; Gutierrez-Domenech, 2010) used recent time-diary data from Spain to analyse how fathers' education or mothers' employment intersect with paternal involvement. Baizan, Dominguez, & Gonzalez (2010) found that father's education is positively correlated with paternal engagement. They posited that this education gradient would be explained by the active role of college-educated parents in fostering children's educational and labour market skills, so as to avoid downward mobility. This interpretation seems particularly reasonable in the Spanish labour market, with a scarce demand of high-skilled jobs for young people. Gutierrez-Domenech (2010) found that fathers married to employed women spend more time in child care activities than fathers married to non-employed women. Gracia and Bellani (2010), however, found that Spanish mothers in full-time dual-earner couples spend almost twice as much time as fathers in child care activities. Although these studies provided insights into how mother's employment and father's education affect paternal involvement in Spain, none of them considered children's age to study sociological and demographic variations in father's child care.

Hypotheses

Hypothesis 1: Education Gradient

The first level of hypothesis deals with how fathers' education affects their child care engagement. Drawing on previous literature, two complementary mechanisms would explain the education gradient in paternal engagement linked to children's developmental stages. First, highly educated fathers would have more access to contemporary norms of intensive parenting than lower-educated fathers, either (i) through a closer proximity to middle-class environments of 'concerted cultivation' (Lareau, 2003) or (ii) by having more resources to

access to information on professional expertise on parenting and child development. Secondly, if parents want to avoid socio-economic downward mobility, rather than seeking upward mobility (Breen & Goldthorpe, 1997), college-educated fathers are expected to be particularly prone to foster their offspring's age-specific socio-emotional and cognitive skills that enhance schooling and labour market outcomes. Thus, the above-mentioned parenting activities that are most suitable for child development at each developmental stage should reflect educational differences in paternal involvement.

Hypothesis 1a: Fathers' education is significantly correlated with physical care in families with children under school age, namely infants and young toddlers (aged 0–2 years) and older preschoolers (aged 3–5 years).

Hypothesis 1b: Father's education is correlated with interactive care in families where the youngest child is an old preschooler (aged 3–5 years), especially in intellectual activities, while similar educational differences should be observed in families with children in mid childhood (aged 6–11 years).

Hypothesis 2: Mother's Employment

The second level of hypothesis deals with how mothers' employment affects fathers' child care involvement. The null hypothesis states that fathers with employed partners reaffirm traditional masculine roles by not being more active in child care than other fathers. The alternative hypothesis, in contrast, holds that fathers maximize children's parental inputs by reacting positively to mother's employment (Coverman, 1985; Presser, 1994), and thereby by compensating from mothers' paid work constraints to spend time in child care. These effects should be stronger in the most demanding and time-rigid activities (physical care) and with small children (especially infants and young toddlers), when children require more intensive care from parents.

Hypothesis 2a: Mothers' employment has a stronger significant effect on fathers' physical care than on interactive care.

Hypothesis 2b: The effect of mothers' employment characteristics on fathers' child care is particularly striking in families with children under school age, including older preschoolers (aged 3–5 years), and especially in families with infants and young toddlers (aged 0–2 years).

Data and Method

Data

Time use surveys are considered the best statistical sources to examine individuals' daily activities (Robinson, 1985). The STUS is a representative time use survey of the Spanish population, collected by the Spanish Institute of Statistics (INE) and included in the Multinational Time Use Study (MTUS) database. Respondents filled a questionnaire with information on individual and household variables. Respondents also reported their 10-minute daily activities on a 24-hour time-diary framework, including the main (primary) and simultaneous activities (secondary). Unfortunately, my empirical analyses only could include primary activities, as the STUS does not collect information on the exact secondary child care activities. However, secondary activities in the sample only represent 9% of fathers' total child care time and present similar socio-demographic patterns than primary child care activities.

The STUS provides a large representative sample with a high general response rate (86%). Respondents filled either a weekday diary (67%) or a weekend diary (33%). My sample includes fathers who were diary respondents, formed a heterosexual couple/marriage, and lived in a household with at least one child aged 0–11 years. This sums a total of 2,952 fathers, from which 11 cases were excluded for having incomplete information on employment variables ($N=2,941$). I created three subsamples based on the age of the youngest child: aged 0–2 years ($N=942$); aged 3–5 years ($N=792$); aged 6–11 ($N=1,207$) (see Table 1).

Measures

Three 'dependent variables' were used (see Table 2). *Physical care* (i.e. feeding, bathing, putting children to bed, and watching over) counts the minutes that fathers allocated to physical activities. *Interactive care* (i.e. playing, reading, verbal interaction, and teaching) counts fathers' minutes of interactive care. *Teaching care* is a dummy variable that captures whether the father did any teaching care activity. The reason of using a dummy variable for teaching was that only 7% of fathers participated in teaching activities. Therefore, a logistic regression approach was more robust for this variable than a linear regression approach.

My two 'independent variables' are categorical. *Father's Education* has four categories: basic; low secondary; high-school; tertiary. *Mother's Employment* has also four categories: not employed; short part-time (<30 weekly hours); long part-time (between 30 and 37 weekly hours); full-time (>37 weekly hours).

Table 1 Summary statistics

Variables	Mean	S.D.
Dependent variables		
Father's minutes of physical care	38.59	62.57
Father's minutes of interactive care	19.62	39.47
Father's teaching care	0.07	0.23
Independent variables		
Father's basic education	0.13	0.33
Father's low secondary education	0.43	0.49
Father's high secondary education	0.24	0.43
Father's college education	0.20	0.40
Mother's not employed	0.46	0.50
Mother's short part-time job	0.12	0.32
Mother's long part-time job	0.11	0.32
Mother's full-time job	0.31	0.46
Control variables		
Father's employed	0.94	0.20
Mother's basic education	0.12	0.32
Mother's low secondary education	0.43	0.50
Mother's high secondary education	0.22	0.41
Mother's college education	0.23	0.42
Son in home	0.69	0.46
Domestic work help	0.36	0.48
Number of children	1.78	0.64
Weekend diary	0.33	0.48

n = 2,941.

Source: 2003 Spanish Time Use Survey (INE, MTUS).

The 'control variables' were chosen for theoretical and empirical reasons. *Father's employment* (dummy) captures father's working time constraints; *Mother's education* (categorical) has been associated to mother's potential human capital to bargain unpaid work (Coverman, 1985); *Son* (dummy) counts whether at least one child is a boy, which may increase paternal engagement (Raley & Bianchi, 2006); *Domestic work outsourcing* (dummy) indicates whether the family outsources domestic work, a proxy of relative advantage for child care participation; *Number of children* (continuous) represents the number of dependent children aged 0–15 years, which may increase the total volume of child care (results did not change when the number of children aged 0–11 years was considered). *Weekend diary* (dummy) is included in the models because fathers have more free time for child care in weekends than in weekdays.

Analysis Plan

The empirical analyses followed a three-step process. First, I compared fathers' average physical and interactive care by father's education and children's age. Second, I ran Ordinary Least Squares (OLS) regressions for

physical and interactive child care. Third, I ran binary logistic regressions to measure father's participation in teaching care. In analyses not shown, I ran Seemingly Unrelated Regressions for child care, paid work, leisure, and housework. Highly educated fathers did not have a significant leisure and paid work advantage, but were disproportionately engaged in primary child care and housework (results are available on request to the author).

Results

Education Gradient

Figure 1 describes the relationship between father's child care and the age of the youngest child across fathers with different education. These associations are presented for physical and interactive child care separately. As one can expect, paternal involvement has a negative association with children's age. In addition, interactive activities vary much less with the age of the youngest child than physical activities, where a much clearer negative relationship is observed between the time in the activity and the age of the youngest child.

Figure 1 shows an evident education gradient in father's average child care time, particularly in families with children aged 0–5 years, when active parenting is particularly important for child development (Waldfogel, 2006). College-educated fathers with a child <2 years of age spent on average 74 minutes in physical care, against the 31 fathers with basic education. An even larger educational gap was observed where the youngest child was aged 3–5 years (56 vs. 20). Differences between fathers with high secondary education and those with university education were marginal in families with a child aged 0–2 years, but not in families with older preschoolers, where college-educated fathers maintained higher levels of physical care engagement. For interactive activities, a more modest education gradient was found. However, in households where the youngest child was aged 3–5 years, highly educated fathers were disproportionately involved in interactive child care activities (Figure 1).

Now, a multivariate statistical framework with all the control variables (i.e. mother's employment, father's employment, and mother's education) is necessary to teasing out the conditions under which education explains variations of paternal involvement and how this varies across children's developmental stages.

Table 3 presents four OLS models for father's physical and interactive care in families with the youngest child in different age groups. In line with descriptive analyses, college-educated fathers with a child aged 0–2 years

Table 2 Definition of dependent variables

	Activities coded in the MTUS ^a	Examples of activities
Primary child care time	380, 381, 382, 383, 384, 389, 939	Playing with child, teaching, feeding, accompanying, to travel escorting a child, bathe the child, etc.
Physical child care time	381, 384, 939	Feeding, bathe the child, supervising, putting child to bed, accompanying child, and related routine/physical activities
Interactive child care time	382, 383	Playing, teaching, reading to the child, and other related interactive and developmental activities
Teaching child care time	382	Teaching children, educational activities

Source: 2003 Spanish Time-Use Survey (INE, MTUS).

^a“Multinational Time Use Study” database (For information on the harmonization procedure, see: <http://www.timeuse.org>).

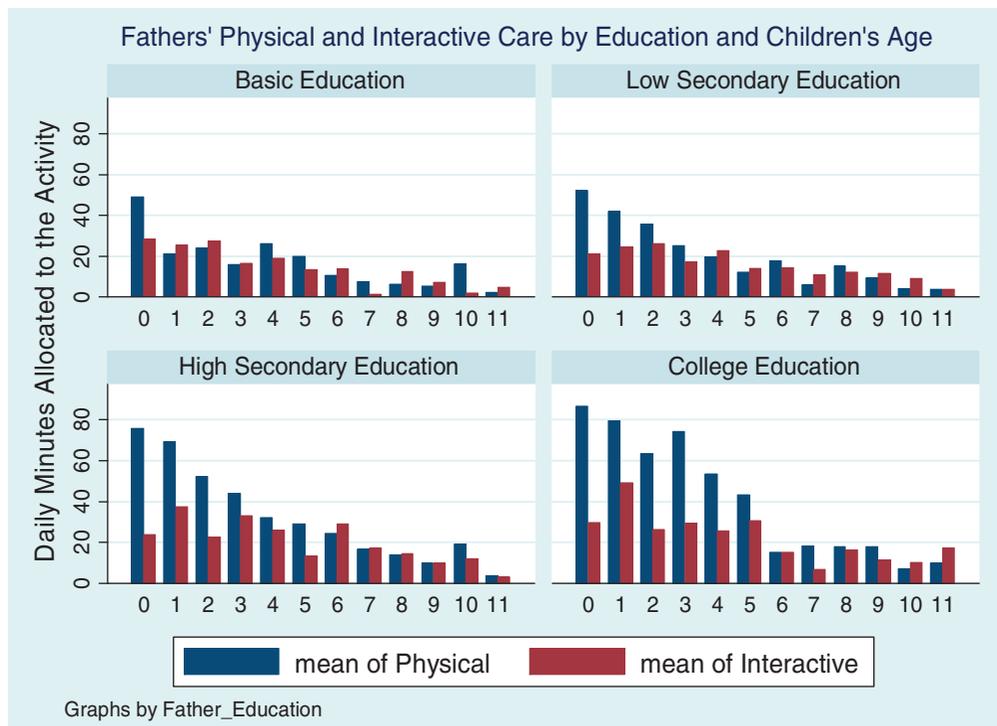


Figure 1 Education gradient in fathers' minutes of child care by the age of the youngest child

spent 21 minutes more in physical care activities than those at the bottom of the educational ladder ($P < 0.05$). The strongest educational differences in physical care were observed among families with the youngest child aged 3–5 years, with college-educated fathers spending 34 minutes more in physical activities than fathers with basic education ($P < 0.001$). Meanwhile, the education correlates for interactive care were weaker than the ones observed for physical activities (Table 3). However, in

couples where the youngest child was aged 3–5 years, college-educated fathers spent 13 minutes more in interactive care than fathers with basic education ($P < 0.05$). In contrast, in families with the youngest child in mid childhood (aged 6–11 years), significant effects were only visible among fathers with high secondary education ($P < 0.05$).

Table 4 complements the findings of Figure 1 and Table 3 with results for the binary logistic models on

Table 3 OLS regressions. Father's minutes of physical and interactive care in families with children of different ages^a

	Physical child care			Interactive child care			Child 6-11			Child 3-5			Child 0-2					
	Child 0-11			Child 0-11			Child 6-11			Child 3-5			Child 0-2					
	Coefficient	S.D.		Coefficient	S.D.		Coefficient	S.D.		Coefficient	S.D.		Coefficient	S.D.				
Father low secondary education	-0.4	3.6		2.1	8.7		1.7	6.8		3.7		-0.2	2.4		4.8		1.8	2.8
Father high secondary education	10.6	4.1*		18.7	9.8		5.4	7.6		4.2		4.0	2.7		5.4		7.0	3.2*
Father's college	16.2	4.5***		21.8	10.3*		3.2	8.7***		4.7		5.4	3.0		6.4		3.9	3.5
Mother short part-time	14.1	3.7***		23.9	8.4**		5.5	6.7**		4.0		2.4	2.4		5.2		-2.1	3.0
Mother long part-time	15.1	3.9***		29.7	9.0**		6.3	7.6**		3.9		-3.5	2.6		5.6		-1.9	3.0
Mother full-time job	10.2	2.7***		15.9	6.4*		4.3	5.1**		2.8		0.2	1.8		4.0		3.6	2.1
Father's employed	-40.5	5.5***		-66.2	13.3***		-28.6	11.8**		5.2***		-20.5	3.6***		8.2***		-11.9	3.9**
Mother's low secondary education	3.2	3.7		10.8	9.1		2.2	6.9		3.7		2.1	2.4		5.7		3.3	2.8
Mother's high secondary education	7.9	4.2		16.0	10.0		6.2	7.8		4.4		2.9	2.8		6.2		1.8	3.4
Mother's college	15.9	4.6**		32.4	10.5**		5.2	8.8		5.0		6.0	3.1		6.5		5.1	3.8
Son in home	3.8	2.4		3.6	5.4		-1.5	4.7**		2.5		4.7	1.6**		3.4		3.3	1.9
Domestic work help	3.3	2.6		-5.9	5.6		5.2	4.5		3.2		2.5	1.7		3.5		0.1	2.4
Number of children	-0.1	1.8		6.6	3.7		0.5	3.3*		2.0		-1.3	1.2		2.3		-2.8	1.5
Constant	37.3	7.6***		70.3	18.3***		38.4	15.2***		7.4***		22.8	5.0***		11.3***		19.4	5.6**
Adjusted R-squared	0.15			0.11			0.04			0.06		0.06			0.05		0.01	
n	2,941			942			1,207			2,941		942			792		1,207	

Source: 2003 Spanish Time Use Survey (INE, MTUS); Controls: 'weekend diary' and 'child aged 0-4 years' for models for the sample of all fathers.

^aBased on the age of the youngest child of the household.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

teaching activities. In families with a child aged 3–5 years, college-educated fathers, as compared with fathers with primary education, had 11 times the odds to participate in teaching activities ($P < 0.01$). Thus, the education gradient in interactive care is mainly captured by teaching practices, namely those activities that are directly focused on children's intellectual development. In contrast, father's education did not explain substantial differences in teaching care in families with children enrolled in primary school (aged 6–11 years).

Mother's Employment

The OLS regressions of Table 3 also allow us to examine the correlation between mother's employment and father's child care. Empirical results show important variations in paternal engagement depending on the wife's employment characteristics. Mother's employment had a strong positive effect on fathers' participation in physical care time ($P < 0.001$). In contrast, mothers' employment did not have any relevant statistical impact on father's interactive child care.

In addition, Table 3 shows that the positive effects of mothers' employment on fathers' child care time is only strong in families with children under school age. In households with children aged 0–2 years, mother's employment had a significant (albeit non-linear) positive effect on father's physical care. Fathers with a full-time

employed wife spent 16 minutes more in physical activities than fathers with a non-employed wife ($P < 0.05$), with coefficients of +30 for fathers with a wife working between 30 and 37 hours ($P < 0.01$) and +24 for those with a wife employed with a short part-time contract ($P < 0.01$). In couples where the youngest child was aged 3–5 years, mother's employment also had a strong positive effect on father's physical child care time, with coefficients ranging from +15 to +22 ($P < 0.01$).² In contrast, mother's employment was not significantly correlated with father's child care time in those couples where the youngest child was aged 6–11 years.

Discussion

This article has investigated how father's education and mother's employment are linked to paternal involvement in Spain. The main novelty of my study is the focus on fathering across subsamples of households with children in different age categories. In so doing, the article makes two important contributions to the sociological literature on fathering (Yeung *et al.*, 2001; Bianchi, Milkie, & Robinson, 2006; Craig, 2006a; Pleck, 2010; Sullivan, 2010; Hook & Wolfe, 2012; Marsiglio & Roy, 2012; Raley, Bianchi, & Wang, 2012). First, I focus on how fathers of different educational backgrounds spend time in age-specific child care activities that are critical for

Table 4 Binary logistic regression. Father's teaching care in families with children of different ages

	Child 0–11		Child 0–2		Child 3–5		Child 6–11	
	Odds ratio	S.D.						
Father's low secondary education	1.26	0.44	1.09	1.07	1.45	1.19	1.20	0.50
Father's high secondary education	2.26	0.83*	2.66	2.83	2.93	2.47	1.92	0.86
Father's college	3.14	1.19**	3.03	3.17	11.44	9.80**	1.80	0.85
Mother's short part-time	1.50	0.41	3.41	2.79	1.85	0.96	1.12	0.41
Mother's long part-time	1.25	0.35	5.92	4.73*	0.60	0.42	1.00	0.35
Mother's full-time job	1.36	0.29	1.37	1.04	1.55	0.68	1.19	0.32
Father's employed	0.54	0.17	0.93	1.13	1.39	1.49	0.41	0.15*
Mother's low secondary education	0.77	0.25	0.64	0.53	0.67	0.43	1.00	0.42
Mother's high secondary education	1.17	0.41	0.17	0.19	1.13	0.75	1.76	0.81
Mother's college	0.93	0.35	0.31	0.31	0.39	0.30	1.88	0.92
Domestic work help	0.83	0.17	1.07	0.68	0.88	0.34	0.91	0.26
Son in home	1.20	0.23	2.07	1.63	0.63	0.24	1.43	0.35
Number of children	1.46	0.20**	4.58	1.86***	2.06	0.59*	0.97	0.18
Constant	0.04	0.02***	0.00	0.00***	0.01	0.01***	0.66	0.16
Pseudo R-Squared	0.08		0.18		0.11		0.10	0.06***
N	2,941		942		792		1,207	

Source: 2003 Spanish Time Use Survey (INE, MTUS); Controls: 'weekend diary' and 'child aged 0–4 years' for the first model.

* $P < 0.05$; ** $P < 0.01$; *** $P < 0.001$.

children's cognitive and socio-emotional development. Second, I examine how mother's employment is correlated to paternal engagement in couples with children in different age groups, while paying particular attention to the most demanding female-typed activities (physical care) versus those less demanding and often more enjoyable activities (interactive care). Therefore, the present study contributes to the scholarship on family, gender, and intergenerational inequality by shedding new light on how father's child care involvement diverges across demographic and socio-economic groups.

I used data from the STUS. This survey provides cross-sectional time use data for a large representative sample of the Spanish population. Despite time use longitudinal data were not available, the STUS allowed me to construct subsamples of families with the youngest child of the home in different age groups, a proxy of the quality and quantity of children's care needs. Spain has widespread conservative family norms and high levels of traditionalism in the gender division of labour (González, Jurado & Naldini, 2000; Esping-Andersen *et al.*, 2013). The country, however, has recently undergone important advances in women's college attainment and employment. This mixture of indicators provides an interesting context to investigate fathers' child care.

A *first general finding* is that Spanish highly educated fathers disproportionately adhere to the figure of the 'new father'. This result is consistent with previous research on different countries (Sayer, Gauthier, & Furstenberg, 2004; Bianchi, 2006; Baizan, Dominguez, & Gonzalez, 2010; Sullivan, 2010). However, unlike in previous studies, and in line with Kalil, Ryan, & Corey (2012) study on American mothers, I analysed how father's education is correlated with age-specific parenting activities associated with child developmental stages. Results in this direction were generally consistent with theoretical expectations (*Hypotheses 1a, 1b*). I found a strong education gradient in families with children under school age, when intensive parental involvement more directly stimulates the present and future father-child closeness, cognitive abilities, and socio-emotional development (Heckman, 2006; Pleck, 2010). This education gradient was salient for physical activities in families with infants, toddlers, and (especially) older preschoolers, a period in which children's well-being critically depends on basic child care and active supervision (Waldfogel, 2006). Father's involvement in interactive child care, especially in teaching activities, showed an important education gradient where the youngest child was aged 3–5 years. In this developmental stage, educational/intellectual care activities are essential for children's future linguistic and conceptual abilities (Gelman, 2008).

Although in mid childhood human capital formation remains influenced by active parenting (Lareau, 2003), Spanish fathers with the youngest child aged 6–11 years were found to spend—no matter their level of education—few minutes in primary child care. Yet, the mechanisms through which fathers' education affects children's life chances in mid childhood could be mediated by paternal engagement in a rich variety of cultural-related leisure activities, as previous qualitative (Lareau, 2003) and quantitative (Gracia, 2012) research suggests, or also by fathers' participation in children's own educational activities (Yeung *et al.*, 2001). This line of research should be more carefully studied in future research.

These educational differences in fathers' child care are relevant for the literature on the *reproduction of inequality* (Kalil, Ryan, & Corey, 2012). In line with previous scholarship (Esping-Andersen, 2009; McLanahan, 2004), my results suggest that Spanish fathers with high levels of education conform directly to 'child-oriented' behaviours with determinant effects on the intergenerational transmission of human capital. This might be explained by educational differences in parenting norms (Alwin, 2004), but also by the fact that parents are primarily motivated by ensuring a similar socio-economic position for their offspring than the one they achieved (Breen & Goldthorpe, 1997).

Additionally, the education gradient in how fathers participate in child care in Spain is relevant for the literature on *gender roles*. Paternal involvement, especially in physical activities, is directly linked to gender egalitarian practices (Craig, 2006a; Pleck, 2010). Thus, the observed educational differences in father's child care involvement are an important finding for the inconclusive literature on how fathering, education, and gender roles intersect (Coltrane, 2000; Shows & Gerstel, 2009; Sullivan, 2010).³ Yet, future research with data on norms and preferences should be used to better understand the underlying mechanisms through which father's education affect parenting activities throughout children's life course.

The *second question* of the article focused on whether fathers' child care is affected by their wives employment in couples with children of different ages. Previous studies provided mixed evidence on how mother's employment and father's child care intersect (Sayer, Gauthier, & Furstenberg, 2004; Kitterød & Pettersen, 2006; Craig & Mullan, 2009; Gutierrez-Domenech, 2010; Hook & Wolfe, 2012), with some studies suggesting that mother's employment may especially affect father's physical or solo care (Roeters, van der Lippe, & Kluwer, 2009; Raley, Bianchi, & Wang, 2012). In line with theoretical predictions (*Hypotheses 2a, 2b*),

multivariate analyses revealed a strong effect of mother's employment on father's physical care, but not interactive care. This was only observed in couples with children under school age, where paternal involvement is central for a gender egalitarian division of labour (Craig & Mullan, 2010).

The results on how mother's employment affects father's child care contribute to the literature on the *gender division of labour*. My empirical findings can be interpreted in line with the *time availability* (Presser, 1994) and *demand/response capacity* (Coverman, 1985) hypotheses. Spanish fathers may compensate for mothers' job demands by being disproportionately active in the most demanding child care activities. In fact, additional analyses showed that employed mothers spent ~1 hour less than non-employed mothers in physical care (see Appendix, Table A1), consistent with the time availability and demand/response theories. Spanish fathers may compensate for their wives' actual incapacity to spend time in physical care by being actively engaged in physical activities with their infants, toddlers, and older preschoolers. However, it is important to stress that the Spanish demographic context presents strong levels of gender inequities in child care. Previous studies showed that, even among Spanish dual-earner couples, the gender division of child care is highly unequal (Gracia & Bellani, 2010; Sevilla-Sanz *et al.*, 2010). Nevertheless, in Spanish families where mothers are employed, fathers clearly adopt a more gender egalitarian behaviour in parental care than in families with non-employed mothers. This finding contributes to the current theoretical and empirical debates on family policy, gender equality, and family-work balance in Europe.

The present study also provides two additional important findings for the literature. First, my study is—as far as I know—the first in presenting results with Spanish data on whether the sex of the child affects father's child care participation. Consistent with previous research (Raley & Bianchi, 2006; Bonke & Esping-Andersen, 2011), my article shows that Spanish fathers with a son spend significantly more time in child care activities than fathers without sons, including interactive (for children aged 0–11 years) and physical care (for aged 3–5 years). In addition, I found that the father's employment has a strong negative effect on his child care time, especially in families with infants and toddlers. This finding suggests that a father-friendly labour market may allow Spanish fathers to be more active in child care activities, as stressed by Gracia, Ghysels, & Vercammen (2011) in their cross-national study on parental care involvement in four countries with different welfare state and gender regimes.

My study, however, has three important caveats that need to be mentioned. First, I could not study actual changes in father's time use with my cross-national data. However, and acknowledging this limitation, I was able to use the age of the youngest child of the home as a unit of analysis for my subsamples. This empirical strategy, similar to the one of Kalil, Ryan, & Corey (2012), serves as a proxy of children's developmental needs and parents' child care demands.⁴ Second, the association between education and fathers' child care time with children under school age may capture child-oriented norms (i.e. intensive parenting norms), but also differences in gender ideologies (i.e. non-traditional masculinities). Future studies should use data on family and gender norms combined with parenting practices to better understand how education affects paternal engagement. Third, I could not study—like most previous studies—the exact causal links between mothers' employment and paternal engagement. Future research should also deeply investigate this question.

Overall, the present study has concentrated on two critical child care activities with distinct implications for children's well-being and gender equity, namely father's physical and interactive care (Bianchi, Milkie, & Robinson, 2006; Pleck, 2010). Yet, scholars might complement this approach by studying other dimensions of father-child interactions and children's lives in families of different demographic and socio-economic groups, as some studies with children's time use (Bianchi & Robinson, 1997), indirect measures of parental care (Craig, 2006a), and parents' time with children in distinct leisure activities (Gracia, 2012). These lines of research could complement the theoretical approach and empirical findings of the present study.

Notes

- 1 Couples are expected to maximize parental care time. Thus, the *demand/response capacity* and *time availability* frameworks appear to be more suitable to investigate how mother's employment, not income or human capital, affects fathers' child care than the *relative resources* thesis, which assumes that parents reduce their contribution to child care based on their household comparative advantage.
- 2 I examined fathers' solo child care (results are not shown for reasons of space). The time that fathers allocated to child care without the spouse was strongly correlated with mother's employment and father's education, consistent with previous studies (Raley, Bianchi and Wang, 2012).

- 3 Interestingly, multivariate analyses (not shown) present a similar education gradient in two female-stereotypical practices: physical housework and solo child care.
- 4 Multivariate analyses (not shown) based on the presence of one or more children at each age category were consistent with the empirical results presented in the article.

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Appendix

Table A1 OLS regressions. Mother's minutes of physical and interactive care in families with children of different ages

	Physical child care			Interactive child care			Child 6-11 Coefficient	Child 6-11 S.D.								
	Child 0-11 Coefficient	S.D.		Child 0-2 Coefficient	S.D.				Child 0-2 Coefficient	S.D.	Child 3-5 Coefficient	S.D.	Child 6-11 Coefficient	S.D.		
Father low secondary education	6.9	6.5	18.2	13.7	17.4	9.7	-6.3	6.5	-1.5	2.3	-1.4	5.0	-2.4	4.5	-2.1	3.0
Father high secondary education	-0.1	7.4	3.8	15.3	15.6	11.0	-2.8	7.5	0.3	2.6	-2.0	5.6	3.0	5.1	-0.7	3.5
Father's college	-0.2	8.1	2.8	16.1	29.4	12.5*	6.6	8.3	2.9	2.9	6.1	5.8	-1.2	5.8	2.3	3.9
Mother short part-time	-47.3	6.6***	-38.3	13.2**	-31.0	9.7**	-28.1	7.0***	-6.3	2.4***	-0.5	4.8	-3.6	4.5	-11.1	3.3**
Mother long part-time	-62.5	6.9***	-21.0	14.1	-53.5	11.0***	-38.1	7.0***	-9.2	2.5***	-6.1	5.1	-5.3	5.1	-8.8	3.2**
Mother full-time job	-61.6	4.8***	-47.9	10.0***	-53.6	7.4***	-31.3	4.9***	-10.5	1.7***	-3.1	3.6	-10.5	3.4**	-12.2	2.3***
Father's employed	15.0	9.5	29.1	19.3	16.9	15.8	14.8	9.1	5.0	3.4	2.4	7.0	7.7	7.4	6.7	4.3
Mother's low secondary education	11.8	6.7	26.9	14.3	15.0	10.0	1.2	6.6	3.5	2.4	1.3	5.2	5.2	4.7	4.5	3.1
Mother's high secondary education	25.2	7.7*	40.8	15.8*	2.5	11.3	7.8	7.9	8.3	2.7***	6.8	5.7	9.8	5.2	7.1	3.7
Mother's college	31.6	8.4***	47.8	16.5**	7.4	12.8	-3.4	8.8	13.7	3.0***	12.0	6.0*	13.4	5.9*	13.4	4.1**
Domestic work help	33.4	4.4***	-34.3	8.8***	6.9	6.5	7.9	5.6	2.5	1.6	0.3	3.2	-3.9	3.0	0.4	2.6
Son in home	8.4	4.3	2.2	8.5	7.5	6.8	2.7	4.4	2.6	1.5	8.0	3.1*	0.7	3.1	-1.2	2.0
Number of children	-3.8	3.2	13.9	5.9*	-0.1	4.8	-0.2	3.5	-2.1	1.1	-2.8	2.1	0.0	2.2	-1.9	1.6
Constant	121.4	13.2***	153.0	27.1***	114.7	21.0***	80.5	13.0***	18.7	4.7***	21.3	9.8*	-4.2	2.9	18.5	6.1**
Adjusted R-squared	0.11		0.09		0.18		0.14		0.03		0.02		0.02		0.05	
N	2,941		942		792		1,207		2,941		942		792		1,207	

Source: 2003 Spanish Time Use Survey (INE, MTUS); Controls: 'weekend diary'.

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.