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Explaining Parental Dedication to Child Care in Spain

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Abstract

The quality of the time dedicated to child care has potential positive effects on children's life chances. However, the determinants of parental time allocation to child care remain largely unexplored, particularly in context undergoing rapid family change such as Spain. We assess two alternative explanations for differences between parents in the amount of time spent with children. The first, based in the relative resources hypothesis, links variation in time spent with children to the relative attributes (occupation, education or income) of one partner to the other. The second, derived from the social status hypothesis, suggests that variation in time spent with children is attributable to the relative social position of the pair (i.e. higher status couples spend more time with children regardless of within-couple difference).

To investigate these questions, we use a sample of adults (18-50) from the Spanish Time Use Survey (STUS) 2002-2003 (n=7,438). Limiting the analysis to adults who are married or in consensual unions, the STUS allows us to assess both the quantity and quality of parental time spent with children. We find little support for the "relative resources hypothesis". Instead, consistent with the "social status hypothesis", we find that time spent on child care is attributable to the social position of the couple, regardless of between-parent differences in income or education.

Keywords

social status, bargaining, parental care, time use, Spain

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Introduction

The continuous pluralisation of family forms has generated much debate around new risks of social exclusion in Western societies. Emergent family forms, such as lone-parenthood, adolescent parents, or the increase of working mothers, have been associated with a new scenario of vulnerability for children. Possible consequences are a greater exposure to poverty or lower quality of parental interaction. However, findings in recent decades suggest that these concerns may be unfounded, recording a more positive scenario in which the time that fathers and mothers spend on children has been gradually increasing (Bittman, 1999; Gauthier, Smeeding & Furstenberg 2004; Sandberg & Hofferth 2001; Sayer, Bianchi & Robinson, 2004). The general conclusion is that families tend to reduce routine domestic tasks by externalisation, use of new technologies or adapting to different housework standards, while a new parenthood of more involved and caring parents emerges.

The general trend described above, however, does not apply to all Western societies or the whole population of a given context. Instead there are major differences in the quantity and quality of time invested in children across social groups and, more clearly, across gender. Even among dual-earner couples, mothers systematically show a higher propensity to spend more time than their male partners on child care. Some work has attributed these between-parent differences to gender socialisation and gender inequalities in the labour market. Differences in the quantity and quality of parental time investment across social groups, however, are more difficult to explain.

The aim of this paper is to assess which parents are more prone to investing time in their children. We use individuals as unit of analysis but take into account partners' characteristics, to avoid looking at fathers and mothers as isolated persons in charge of their children. Instead, we consider the couple to be a single domestic unit within which there are members who potentially negotiate the organisation of child care according to available time or relative authority in the relationship (i.e. bargaining power). From this perspective, the time dedicated to children will be determined simultaneously accounting for decisions and available time of both partners. To account for this process, we consider the fact that parents are also constrained by working conditions, the ability to reconcile family and paid work and/or the ability to externalise (i.e. outsource) different portions of domestic and family responsibilities.

This research contributes to the current literature by adapting theories of the household division of labour to the parents' unequal distribution of quantity and quality of time dedicated to children. Using the Spanish context, we test whether parental dedication to child care is explained by relative resources and bargaining, or whether such dedication is related to parent's socio-economic

background. Spain is of particular relevance for family studies because of the rapid and profound changes that it has undergone in the last forty years. Overall, it has shifted from a normative traditional family, which is characterized by gendered distribution of family roles and relatively high fertility, to a context with one of the lowest fertility levels of the industrialised world. The result is that many young Spanish families nowadays are dual-earner families and have to confront a 'familistic welfare state' to solve their reconciliation problems (Baizán & González, 2007; Lapuerta et al., 2010; Obiol, 2006). Because these new roles are only recently emerging and being adopted, very little is known about their consequences for children. In this way, Spain provides a unique and dynamic setting for assessing competing hypotheses about parental time-use and child care.

In the first section, we discuss the existing theoretical debate around the determinants of parental time dedication and develop the main hypotheses. In the second section, we discuss data, methods and variables. In the third section, we provide our main results. The final section offers a summary and discussion of the main results.

1. Theoretical Background: Parents' Quantity and Quality of Time Allocated to Child Care

Family change and women's increased participation in the labour market have not produced the expected reduction in parental time. On the contrary, countries with long time series data, such as the US, show an upward trend in the quantity of parental time dedicated to children since the sixties¹ (Bittman, 1999; Gauthier, Smeeding & Furstenberg 2004; Sandberg & Hofferth 2001; Sayer, Bianchi & Robinson, 2004). Fathers have increased their participation in child care activities, particularly during weekends (Bianchi 2000, Sandberg & Hofferth 2001; Zick & Bryant 1996), although mothers remain the main providers of care (Bittman, 1999; Gauthier, Smeeding & Furstenberg 2004; Sayer, Bianchi & Robinson, 2004). Mothers are also more often the sole caregiver (Craig, 2006) and assume more routine tasks than fathers (Meil-Landwerlin, 1997, Pleck, 1997).

Trends in parental time investment are mainly explained by a combination of factors such as the reduction of routine domestic and caring tasks and the increase of developmental and more rewarding parent-child interactions (Sayer,

¹ This increase refers to "primary" activities reported in surveys using the "time diary" method. Responses to the question "What where you doing" are commonly known as primary activities because they are thought to be the most salient activity for respondents. Responses to the question "What else were you doing" are referred as secondary activities (Sayer et al. 2004).

Bianchi & Robinson 2004). Parallel changes have also taken place in the way parents socialise their children, with an increasing emphasis on their development and autonomy (Alwin, 1996). Additionally, reductions in the average size of the family and increases in population-level educational attainment favoured closer parent-child relationships. Parents nowadays reduce routine domestic tasks as much as possible while more often incorporating their children into their leisure time (Bianchi, Robinson & Milkie, 2006). Therefore, the transformation of advanced industrialised economies does not necessarily entail 'less caring parents'.

Today policy makers' major concern is not so much the 'quantity' but the 'quality' of time that parents spend on children and its unequal distribution across children from different social backgrounds. Therefore, the total time dedicated to child care, which does not account for the nature of the interaction, is a limited measure of parental investment. Quality, on the other hand, is important because children receiving 'high quality' time of child care at early ages have more chances of good performance in formal education, which has been mentioned by Danziger & Waldfogel (2000) and Meyers et al. (2003). Similarily, Neidell (2000) and Izzo et al. (1999) show that close parent-child relationships during the first year of life or during the pre-school period have positive effects on the educational performance and cognitive abilities developed by children once they enter the educational system. In short, evidence suggests that the quality of the time dedicated to child care has potential positive effects on children's life chances. However, the determinants of parental time allocation to child care remain largely unexplored, particularly in context undergoing rapid family change such as Spain.

Empirical studies confirm that the time allocated to child care varies substantially by characteristics of the provider; the most important being gender, working conditions, and parents' educational attainment. Our analysis differentiates two groupings: the role of parents' education and social status, and relative resources and time availability.

Parents' Education and Social Status

Most empirical studies reveal a strong correlation between parents' education and the quality of time spent with children. Mothers with higher educational attainment in the US, for instance, spend more time in 'high-intensity care' activities (i.e. where a direct child-mother interaction is implied such as reading to the child) and less time in 'passive care' such as watching television (Bianchi et al., 2004). In contrast, educational attainment does not substantially alter the time dedicated by fathers to routine child care, although it is significantly associated with an increased participation in particular tasks such as playing, reading or leisure. In general, improved population-level educational attainment has indirectly reduced the gender gap in child care

dedication within couples, as educated fathers are often more inclined to participate in child care (Chalasani 2007; Gauthier, Smeeding & Furstenberg 2004). This trend in education is also very positive for children, as educated mothers appear to be better prepared to transmit skills which are later beneficial for children when they enter formal education (Hsin, 2009). In addition, educated parents value the time spent on children more, although there is not a clear relationship between parents' education and the total amount of time spent on children among western countries (Sayer, Gauthier & Furstenberg, 2004). Nor is it clear whether education reflects differences in parenting styles or values around child care time or simply captures indirect family income effects. In other words, since educated parents can afford to externalise domestic work, they may enjoy better living conditions and, accordingly, display different behaviour than their low-income equivalents.

Although a substantial amount of research has shown that the quantity and particularly the quality of time parents spend on child care are positively related to parents' education, little is known about the underlying mechanisms. Related measures such as parental social background, income and educational level are sometimes depicted as proxies for different norms or values related to child care (Bianchi, 2000; Bittman et al. 2003; Brines, 1994). An alternative explanation is rooted in the literature on social differences in educational attainment, which investigates the relation between education and social class (e.g. Breen and Goldthorpe, 1997; Erikson et al 2005; Shavit and Blossfeld, 1993).

Most social class analysts' assume that parents know in advance that their dedication to child care, in terms of time and intensity, has some effect on their child's development, specifically on the educational performance of their offspring². This is also consistent with the strategies followed by higher social class groups involving high quality non-parental care, such as bringing their children to pre-schools, complementary classes or private schools. In this sense, parental time dedication can be considered as an investment in the (future) educational performance of their offspring. It is rational for parents who aim for their children to attain a high(er) level of education to demonstrate greater dedication to child care than parents who have lower educational expectations for their children. Parental educational goals for their children have to take into account the costs of the allocation of time and resources to parental care. In addition to direct transfers, these costs include opportunity costs. Similarly, in our conceptualization of the process of allocating time to child care, we assume that parents try to balance these costs and expected benefits when deciding on the time they will dedicate to child care.

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² Even if parents of particular social backgrounds shared specific norms or values concerning child care (Brines, 1994), the development of these norms could be explained to some extent by the objective social situation of the individuals (Goldthorpe, 2007).

A consistent finding of the research on education is the positive relationship between parental social class and children's educational attainment. In this literature, the distinction between the "primary" and "secondary" effects of parental background on educational attainment is standard (Boudon, 1974). Primary effects are all those that are expressed via the association between children's class origins and their actual levels of academic performance. Taking this performance as a starting place, secondary effects are those that are expressed via the educational choices that children from differing class backgrounds make within the range of available options. Primary effects are important, since they account for at least as much as secondary effects in academic choices (see e.g. Salido-Cortés, 2007), and remain basically unexplained. Here we propose that these effects are primarily determined by social class, which is related to the resources available to the parents. As a consequence, parents of more advantaged social class should have higher educational expectations for their children and be more capable of achieving them.

It is important to acknowledge that the time parents dedicated to child care implies costs, albeit in the form of opportunity costs. This is especially the case for the most intensive types of child care, which imply exclusivity, while low-intensity or supervisory types of child care are more compatible with performing other tasks (e.g. housework, leisure, sleep), and therefore have lower opportunity costs³. Parental dedication to child care also implies benefits for the children in terms of their cognitive, emotional and social development.

Furthermore, it has been shown that parental dedication to child care has a significant direct impact on school readiness and the academic performance and a more indirect impact via the associated development of children (Brooks-Gunn et al., 2002; Chase –Landale et al., 1995; Yeung et al 2000). Fathers' social origins, for instance, partially determine children's human capital attainment (Bianchi et al. 2004, Chalasani, 2007; Sticht & Armstrong, 1994; Strauss & Thomas, 1995). This transmission of human capital is not solely attributable to high child care quality in early life, but also by the fact that certain parents have more skills to transmit (Coleman, 1988; Hsin, 2009; Leibowitz, 1974). Therefore, we could conclude that parental care choices concerning the time and intensity of care reflect evaluations of their costs and benefits, which are in turn, conditioned by the constraints and opportunities determined by the socio-economic class position of the family.

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³ The existence of opportunity cost would involve that parents with higher income from a job would spend less time on child care, other thing been equal.

Parents' Relative Resources and Time Availability

Other explanations for child care time allocation come from two perspectives rooted in human capital theory – parents' relative resources and comparative availability of parents' time. This first perspective assumes that the time allocated to children depends on the preferences and relative resources of members of a given couple. Thus, the partner with the higher resources (i.e. human capital or work experience) may be better prepared to bargain the share and distribution of time spent with children (Bittman et al. 2003; Geist, 2005; Manser & Brown, 1980; Stancanelli, 2003), or even decide whether or not to outsource certain family responsibilities for the sake of his/her career. This approach assigns preferences to individual family members – contrary to the neo-classical view that assumes a "consensus" utility function for the family as a whole (Becker, 1981) - and explains, for instance, the fact that wives tend to reduce their housework time and husbands tend to increase theirs as the proportion of family income contributed by the wife increases. For the same reason, when the husband is employed fewer hours and earns less than the wife, he has less power to avoid tasks and, therefore, performs more domestic duties. In both cases, it is more efficient in terms of household utility for men to increase involvement in domestic and child care activities.

It should also be acknowledged that income might influence couples' division of care and parents' time availability in different ways. Thus, individuals living in high-income households have more options to privately acquire child care while reducing the couple's care burden and, quite probably, reducing their obligations for routine tasks. Consequently, they may have less time to share, more chances to equally distribute time and more opportunities to spend time on high quality activities. On the contrary, in low-income households couples may have to cope with child care by adopting a rigid division of labour or acquiring informal care. In either case, they have more time left to bargain, more chances of unequal sharing and more barriers to an active fathering or mothering. Using data for 2,214 couples from the British General Household Surveys, Henz (2010) found that mens' share of parent care increases with household income, while low-income households tend to follow a more traditional pattern of caregiving.

The second perspective, the comparative availability of parents' time, assumes that partners bargain the time that is left after their working time (South & Spitze 1994). Therefore, child care time is the result of both parents' relative resources and working time. Aldous et al. (1998), using data from two-parent families with at least one child younger than 5 years of age in the US, documented that as the mothers' number of hours of paid work outside the home increased when children were preschoolers, the fathers provided more physical care. Likewise, the number of hours that fathers spent on the job was closely related to their parenting.

Hypotheses

We build upon current literature by empirically exploring the quantity and quality of the time that Spanish parents and their children spend together from the couple's perspective. First, we test the role of couples' bargaining to explain the quantity of time that mothers and fathers invest in child care. Bargaining models have mainly been applied to housework time allocation (see, for instance, Bittman et al. 2003; Breen and Cooke, 2005; Evertsson and Nermo, 2004; Lundberg and Pollack, 1993⁴). Fewer studies have used them to explain parental time (Aldous, Mulligan and Bjarnason, 1998) or parent care (Henz, 2010). This is probably due to the fact that most analyses focus on individuals, either the mother or the father, while neglecting joint decisionmaking processes within couples. Second, we test the role of parents' social position in predicting the time invested in different child care activities, that is to say, in predicting the quantity and quality of time invested in children. This view assumes that parents of more favoured social groups have higher educational expectations for their children and are more able to attain them. The working hypotheses are summarised as follows:

Based on human-capital theory, we hypothesise that the partner with a greater share of a couple's total resources - measured either by their income contribution to the household economy or their educational attainment in relation to their partner's education - has more 'marital bargaining power' to negotiate less time with children (*Relative Resources Hypothesis*). Therefore, we expect to find an inverse relationship between a partner's share of the couple's total resources and the time spent with their children. The 'relative resources effect' may additionally be mediated by gender. Women and men will invest less time in children as they enjoy more bargaining power within the couple, but will also allocate time to child care following different patterns due to their socialisation in traditional gender values. Women may focus instead on physical care of the child as well as in routine caring activities, while men may focus on social and leisure activities such as playing or reading to the child.

Based on social class theory, we hypothesise that there is a positive relationship between parents' social position and the time they spend with children (*Social Status Hypothesis*). This thesis also predicts that couples with higher social positions or educational levels will be more prone to allocating more 'high quality' time to their children.

⁴ For these last authors, as for many others, it is not entirely clear whether they include child care together with household chores in their analysis of "domestic labour".

3. Empirical Analysis

We use data from the Spanish Time Use Survey, 2002-2003 (INE 2004), a cross-sectional survey based on diaries of time allocation from 23,880 households. All members of the household aged 10 or more are interviewed and have to fill a diary with their daily activities. Each day is divided into 144 periods of 10 minutes, and respondents have to note down what they were doing during each period. A main activity must be specified, but there is also space for a simultaneous (secondary) activity. In addition to this, respondents report on the presence of other household members during each period. This methodology has been widely tested. For our analytic sample, we select adult parents (18-50) with at least one child younger than 10, resulting in 7,384 individuals.

The dependent variable is the daily amount of time devoted to child care by each parent. We measure time in minutes and take into account time devoted to different types of care, as well as total time. Mothers and fathers are analysed separately because there are theoretical reasons to believe that women and men have distinct time use patterns and are influenced differently by our control variables, with controls for partner's characteristics when a couple perspective is considered. In the previous sections we have emphasised the importance of the quality of time spent with children. We now introduce a typology of activities considering, on the one hand, the intensity of the interaction between parent and child, and on the other, the potential intellectual, social and emotional stimulation of the child. This typology is rooted in work by Bittman, Craig & Folbre (2004) who classify activities into four groups: developmental care, high-intensity care, travel and communication, and low-intensity care.

Here we modify this classification in order to consider passive care activities separately and to adapt this to the Spanish setting, where time spent on travel is much lower. The specific activities grouped under each type of care are the following:

a) Developmental activities: face-to-face parent-child interaction, including activities considered to be critical for the linguistic, cognitive and social development of the child. These activities comprise teaching something to the child or helping with homework, reading, playing or talking with children. These activities must be declared by the parents as primary activities.

- b) *High-intensity activities*: face-to-face parent-child interaction related to physical care of the child, such as feeding, bathing, putting to sleep or taking care of the child when sick. This type of care is especially beneficial for the child's health and emotional wellbeing. Again, these activities must be declared by the parents as primary activities.
- c) Low-intensity activities: activities where parents play a secondary role or do not explicitly interact with the child, but which require more attention than mere supervision. Child care as a secondary activity is included here, as well as several activities where the child is present and a certain interaction is inferred, such as meals, being with the family, playing sport, bringing the child to school or to the doctor, other non-specified child care activities, commuting due to child care, etc...
- d) Supervision or passive care: includes any activity where the child plays no role but is present. There is no explicit parent-child interaction but the parent is available to the child. This includes sleeping, personal care of adults, paid work, housework, studying, shopping, voluntary work, informal help to other households (except child care), gatherings and religious fests, reading, watching TV, commuting (except if due to child care) and other non specified activities.

Our first two categories are very similar to those considered by Bittman et al. (2004), but the last two differ substantially. It must be noted that in spite of the labels "low-intensity" and "passive", these types of care also may foster the child's development, since they imply an interpersonal relationship that would otherwise be absent. Parents play the role of behaviour guides or reference roles in these activities, and they are present for their children if they need closer attention. Furthermore, even though these activities are less demanding for the parents, they may also be constraining their time use patterns, preventing them from devoting time to other activities such as paid work or leisure and therefore imply a cost.

Independent variables

We include controls at two distinct levels - the individual and the couple. At the individual level, we control for age and age squared; age at first childbirth; educational attainment (primary, secondary I (compulsory), secondary II, (vocational and college)); income (four categories); labour market activity (employed, unemployed, not active). For those that are employed we take into account their working hours, distinguishing those that work less than 20 hours a week from those that work between 20 and 45 and those who work over 45. We also consider whether workers have some flexibility in their schedule. The survey also includes information on whether the diary was filled on a weekend

day, and we include it as a control because we expect time use patterns to differ and parents to devote more time to the family on leisure days. At the level of the couple, we include the number of children and age of the youngest child, as well as educational homogamy, absolute and relative income, and occupational status of the household, using an adaptation of Erikson and Goldthorpe's classification (1993). We measure occupational status of the household by the highest level of each member of the couple.

Table 1 summarises the distribution of our sample. The couples that we study are on average in their thirties. Their educational attainment corresponds to the average population – half of the parents had completed only compulsory or lower education. However, their working patterns are distinctive with 93 per cent of men work for pay, whereas half of women are not active in the labour market. Given the age of these parents, women's activity rates should be higher, but what our sample may be reflecting is the number of women who stop working for some time when their children are very young, which is distinct from longer-term departure from the labour force. For those who work, the most common circumstance is to do so full-time, with an important presence of overtime workers. More than half of working women and almost 40 per cent of male workers enjoy some flexibility in arranging their work schedule. The monthly net income declared by respondents is relatively low, with more than half of men earning less than 1.250 Euros a month, and the main occupational category is that of skilled manual worker.

Technique of analysis

In order to ascertain the influence of these variables on parental child care time, we use OLS regression analysis. There is an ongoing discussion in time use literature about the relative advantages of OLS regression versus Tobit models. Although Tobit analyses (Tobin, 1958; Breen, 1996) allows us to account for possible selection effects arising from fathers reporting zero minutes devoted to child care, some authors argue that when there is no theoretical reason to explain selection and with large samples, Tobit models can produce biased results (Stewart, 2009). To assess the robustness of our findings, we have run models using both techniques and no significant differences were found, therefore we present results for OLS to facilitate interpretation.

Table 1. Sample distribution, by gender

	Men	Women
Sample		
Monday-Thursday	49,26	49,24
Week end	50,74	50,71
Education		
Primary or less	15,4	14,54
Secondary I	37,74	33,66
Vocational	18,71	18,92
Secondary II	12,61	12,7
College	18,54	20,12
Activity	00.07	40.05
Active	92,97	49,95
Unemployed Not active	5,21 1,82	39,96 10,09
	1,02	10,09
Working hours per week	0.72	4.04
<20 Full time	0,73 61,51	4,84 66,86
>45	37,76	28,3
Flexibility	40,2	57,09
•	40,2	57,09
Occupational class	44.00	40.02
Higher grade professinals & managers Lower grade professinals & managers	14,08 7,76	10,03 7,11
Routine non manual employees	8,74	9,72
Self-employed and small proprietors	17,17	11,59
Skilled manual workers	32,44	21,89
Semi skilled and non skilled workers	12,18	8,96
Not working	7,63	49,27
Individual monthly income		
<500	2,87	11,13
500-999	28,63	20,56
1000-1249	27,31	7,85
1250-1499	13,71	4,65
1500-2000	11,42	4,31
>2000	9,22	1,91
Unknown	6,72	49,26
No of children		
1	44,4	44,4
2 3 or more	47,3 8.2	47,3
3 or more	8,2	8,2
Age youngest child	45.00	AE 00
0-3 4-9	45,96 54,04	45,96 54,04
Age	37,7	35,4
N	3692	3692

The estimated model can be expressed as follows:

$$Y_i = \alpha + \beta X_i + u_i$$

Where Y_i is the number of minutes of child care reported by individual i. X_i represents a vector of explanatory variables and β denotes the value of the coefficients estimated by the model for each of those variables. The residual, u_i is assumed to be normally distributed.

We are interested on testing mothers' and fathers' individual behaviour, therefore our unit of analysis is the individual, analysing men and women separately. In order to test these hypotheses, we also introduce partners' characteristics in the models. This strategy will allow us to find out whether having lower resources than the partner increases dedication to child care —as predicted by the relative resources hypotheses—, or whether having high resources in the household (irrespective of who provides them) increases individual dedication—as predicted by the social status hypothesis.

3.1. Descriptive Statistics

As has been found in other contexts, the time devoted to child care, as in the case of housework, shows a strong gender asymmetry. In 2003, Spanish mothers of children under 10 dedicated an average of 452 minutes per day to child care, in contrast to the 274 devoted by men. Thus, given that men and women differ in terms of time spent on child care, it makes sense to examine if such differences are similar for all the types of care included in this study. Table 2 summarises the time spent by men and women in each kind of child care activity. It shows that, consistent with the observed overall differences, women devote more time to both high- and low-intensity care, as well as to supervision tasks. However, developmental activities are gender neutral with both mothers and fathers spend about 20 minutes per day on them.

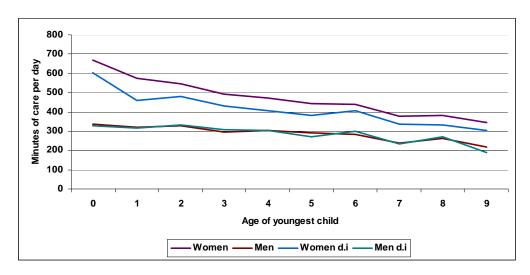
Nevertheless, time dedicated to child care by parents depends greatly on the children's age. Younger children need more attention to carry out tasks and, as they are not integrated into the school system, they often require more direct supervision at home. Graph 1 represents the average daily time devoted by fathers and mothers to the care of children depending on the age of the latter. We represent double-income and single-income couples separately. The observed differences in the previous graph are even more significant among parents of very young children (3 or younger) with mothers devoting a much longer amount of time to their care than fathers. As a child's age increases, overall care time by mothers decreases particularily when the child is older

than 3 and then again when most children enter the school system. Men do not experience a comparable decrease, devoting a similar amount of time to their children regardless of their age. In contrast, mothers' care is much more intense in the first stages and greater overall across all ages of the child. Being in a double income couple (indicated in the graph by "d.i") lowers time spent for child care, but only for mothers.

Table 2. Average minutes of care per day, by gender and care type

	Develop	mental	High int	ensity	Low int	ensity	Superv	rision	Tota	al
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Average	21,20	19,53	93,48	29,17	52,35	21,66	164,32	94,92	431,7	262,96
Standard deviation	37,93	39,26	98,11	53,8	81,83	47,4	163,51	127,43	267,57	235,23

Graph 1. Average minutes of care per day, by gender and age of the youngest child



The data presented in this section provide an overview of the care patterns of Spanish parents. It has been observed that the most time-consuming kinds of child care are low-intensity and supervision activities, although it depends on the child's age, as lower ages increase the relative size of high-intensity care.

However, the determinants of these differentials remain unexplored. Factors such as education, which could be associated with a higher dedication to care could be attributed to various factors, such as, higher educational credentials and higher income levels. This could permit parents to externalise supervision of more routine tasks and focus on activities that are more rewarding for parents. In order to control for additional factors such as education and income, we now turn to a multivariate framework.

3.2. Results from Multivariate Analysis

In Tables 3 and 4 we present the results for complete models for women and men respectively that allow for a first evaluation of our hypotheses, and include results for a number of control variables as well. However, a more in-depth exploration of the "relative resources" hypothesis involves an analysis of the educational level of one member of the couple relative to the other member of the couple (Table 5 and 6), as well as the partner's relative income (Table 7 and 8). Furthermore, in order to provide an additional test of the "social status" hypothesis, we include a specific analysis of the impact of the household's occupational status on time spent on child care (Table 9 and 10). In each of the tables we include models for total time dedicated to child care and to each of the four types of parental activities (developmental, high-intensity, low-intensity and supervisory care).

In the presentation that follows, we shall explain the results obtained for each of the main indicators of our hypotheses by combining the analyses presented in different tables. These results are easy to interpret. The constant terms in the last row of Tables 3 and 4 represent time spent, in minutes per day, on the specified activity for an individual with the baseline characteristics⁵. The coefficients for the remaining rows represent the effect of each of the independent variables on the minutes dedicated to child care.

One of the key indicators of the study is educational level. According to the Relative Resources hypothesis, what matters is the educational level of one partner $vis\ \hat{a}\ vis$ the other, while according to our Social Status hypothesis, the higher the level of education, the stronger the involvement in child care will be (in particular, if the combined level of education of the couple is high) and the higher the quality of the child care provided. As can be observed in Tables 3 and 4, the level of education has a strong positive and significant effect on the total time dedicated to child care, for women and even more clearly for men. For instance, a college-educated woman spends 31 more minutes in child care than a woman with a lower secondary education. This result is in line with many other studies that show a positive relationship of education with parental

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⁵ Continuous variables are set at the mean values.

involvement (e.g. Bianchi, 2000; Gauthier, 2004). For men, it is particularly the low-educated (primary level) who show a lower dedication to child care (20 minutes less than a man with a lower secondary education).

The positive gradient of education can be found for all types of child care studied in the case of men, although no significant coefficients are found in low-intensity care and only weakly significant for supervisory care. For women, a positive relationship is found between higher education and all types of care except supervisory care, where women with a primary education show a significantly positive coefficient. As we have shown above, supervisory activities are, by far, the most time-consuming activities. This type of child care is also more likely to be subject to bargaining between couple members, as it can be more closely assimilated as a duty and more seriously constrain other parental activities (such as leisure or paid work).

These results are both underlined and nuanced when we analyse the degree of educational homogamy between partners (Tables 5 and 6). In these tables it can be seen that homogamous couples show a clear gradient according to the level of education, with college-educated couples showing the highest coefficients with respect to low-educated couples. For men, these results hold for all types of activities, although in relative terms this is especially true for developmental and high-intensity care. This positive relationship of education and time spent in child care is found also for women, except for supervisory activities. When she has a higher educational level than he, the coefficients show a similar order of magnitude and significance level as in the case of homogamous couples. However, when the level of education is higher for the man than for his partner, the results are much less clear-cut, suggesting that women's educational level is a stronger determinant than men's for care activities. Overall, these results clearly provide support for the Social Status hypothesis, while they are only weakly consistent with the Relative Resources hypothesis.

A second and perhaps more direct indicator of the economic resources available to individuals is their household income (see Tables 3 and 4). A possible shortcoming of this indicator is that it is measured at the time of interview and, as a consequence, it may reflect the result of a bargaining process among the couple's members, rather than the resources available for each of them. In addition, we suspect it is severely under-reported, although there are no reasons to think that the relative situation of households (or individuals) is modified⁶. Keeping these clues in mind, it can be seen in Table 3 that men's involvement in all types of care is positively related to their household income, a result consistent with the Social Status hypothesis. While in the case of women, a U-shaped relationship between income and care seems

⁶ It may well be the case that higher earners under-report a higher share of their income; but hopefully the ranking of households/individuals is not modified.

to exist, since women in the lowest and the highest income groups spend more time on child care. This last result could be related with the use of non-parental care by higher income groups, which could affect women's time to a greater extent than men's time with children, given her generally larger implication in child care. However, we should keep in mind that these models control for the individual's labour market involvement and that household incomes of less than 1000 euros may involve households where nobody has a job, together with households with just one job-holder (man or woman), thus making it difficult to interpret the results of this very low income group.

When we turn to the impact of the individual's income for fathers (see Tables 7 and 8), we observe a positive relationship between income and developmental/high-intensity care among homogamous couples, while a lack of significant effects is observed for low-intensity care and supervisory care. For women's income, only a very weak positive relationship is found, again only for the more demanding types of care activities. The effects of a higher woman's income with respect to their partner show a positive significant effect on men, who increase the time spent on developmental care and high-intensity care, while for women no significant results are found. These results point again to the importance of women's bargaining power in changing the behaviour of men, and not the woman's own, which is unaffected by her own relative income resources.

The results presented so far concerning educational level and income are basically consistent with the Social Status hypothesis, with the exception of supervisory care activities. In Tables 9 and 10, for men and women respectively, we included an analysis of the household's occupational status as an additional indicator of social class. The class scheme used to classify individuals is based on the one proposed by Eriksson and Goldthorpe (1993). Two remarks are to be kept in mind. The first one is that the actual class into which a particular household is classified is the highest between the partner's job classes; individuals are therefore supposed to share the social status of the couple member with the highest job level⁷. The second remark has to do with the control made for women who do not work versus double-income couples (Table 9; for women only). This is necessary in order to properly isolate the effects of occupational status, since home-maker women dedicate a much higher amount of time to child care than women with a job. Turning first to the results for women, a clear positive and significant association is observed between a household's occupational class and all types of care time, except for supervisory activities, where no significant relationship is found. Here we can also see that this positive relationship is stronger for the most demanding types of care. Thus, in the case of developmental care, high grade professionals and

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⁷ Obviously, households where nobody had a job at the time of the survey could not be classified, and a residual category had to be included.

managers spent on average 12.9 more minutes than skilled manual workers (the reference). The results for men similarly show a positive relationship between child care time and social class, particularly for "high-intensity" types of care. However, this relationship does not show up for "developmental" care, which is a puzzling result.

We now comment on a key control variable, the total time that the partner spends on child care, which assesses the impact of the partners' involvement in child care on the individual's own involvement (Tables 3 and 4). The coefficients show a clear-cut and very significant result for all types of care and for both genders: the higher the involvement of the partner, the higher the child care dedication of ego. For instance, the total time involvement of women increases in 0.46 minutes for each additional minute of her partner's dedication; and the increase is of 0.34 minutes in the case of men. Furthermore, the relative impact of partners' behaviour increases with the quality of care. This finding unambiguously indicates that partners do not substitute each other in care dedication; rather, the behaviour of each couple member complements and reinforces the other couple member. This behaviour is at odds with the logic of the Relative Resources hypothesis, for which parents bargain to minimise their own involvement in child care, while trying to increase their partner's share of care. However, the result that the partners mutually reinforce their child care behaviour is in line with the Social Status hypothesis, where the behaviour of partners is inter-related according to the theoretical arguments presented above.

All the models presented above also include other relevant variables that control for several determinants of parental care. The results obtained for these variables are as expected and are consistent with those found by many other studies. Thus, for instance, the positive effect of an additional child on parent's dedication to child care is strong and significant for all types of activities. This effect mainly applies to the second child, not the third, possibly indicating scale economies in care time. The same applies to the age of the youngest child, which clearly reduces parental involvement as age increases. The individual's age has a negative effect on child care time, although this impact is not linear, as captured by the age-squared variable. And finally, the activity and number of hours of paid work are consistent with the expectation that individuals with less involvement in paid work (inactive, unemployed, or part-time workers) do have a greater involvement in child care. This last result is worth noting in the case of men, as it contradicts traditional gender norms about child care.

In short, the results provide little support for the Relative Resources hypothesis. We interpret this finding as an indicator that child care - and particularly high quality child care - is not a commodity bargained among parents in order to be avoided. According to our data, fathers and mothers value spending time together with their children no matter who has the highest income resources in

the couple. Instead, the results appear to be more consistent with the 'social status hypothesis', which predicted that parents' dedication to child care will be governed by their social status. We do find indeed that parents of more favoured social groups have more time together with their children and they also tend to make an extra effort to spend time doing high-intensity activities. A main puzzle remains, however, as we ignore which are the main factors inducing parents to invest time in developmental activities, which we considered to be of the highest quality and relevance for children. Our theoretical models accounted for around 35 per cent of the variance to explain parents' time spent on activities considered as high-intensity, low-intensity and supervision, but they only account for 9 per cent for developmental activities. More research is needed to further explore parents' behaviour and their knowledge about the influence of parenting styles on children's development.

Table 3. OLS results for father's time spent on child care, by type of task (general model)

	Total	Developmental	High intensity	Low intensity	Supervision
Age	-1,37 *	-0,33 **	-0,3 *	-0,16	-0,4
Age squared	-0,23 **	-0,02	-0,04 **	-0.08 *	-0.07
Weekend	130,35 ***	5,55 ***	8,79 ***	58,11 ***	45,5 ***
Education					
Primary or less	-20,34 *	-3,42 *	-3,26	-4,57	-8,19
Secondary I	ref	ref	ref	ref	ref
Vocational	0,99	-1,46	6,94 ***	-2,48	-4,54
Secondary II	38,26 ***	4,46 **	14,85 ***	8,66	9,69 *
College	23,01 **	1,67	19,08 ***	2,88	-0,36
Activity					
Active	ref	ref	ref	ref	ref
Unemployed	114,59 ***	10,19 ***	15,06 ***	47,97 ***	41,59 ***
Out of the labour market	183,43 ***	11,7 **	30,89 ***	63,83 ***	68,22 ***
Working hours per week					
<20	-33,08 ***	-5,08 ***	-5,5 ***	-7,08 *	-12,68 ***
Full time	ref	ref	ref	ref	ref
>45	-30,78 *	-4,18	-4,46	-12,84	-7,5
Flexibility	29,26 ***	3,19 **	4,1 **	17,71 ***	5,94
Household income					
<1000	ref	ref	ref	ref	ref
1000-1999	3,82	2,16	-0,96	1,17	2,56
2000-3000	30,74 ***	5,6 ***	3,31	8,43	17,22 ***
>3000	47,79 **	4,93 ***	9,99 ***	17,49 ***	16,11 ***
No of children					
1	ref	ref	ref	ref	ref
2	-2,73	3,06 **	0,88	-7,9 **	0,63
3 or more	18,28	0,2	1,92	6,00	5,48
Age youngest child					
0-3	ref	ref	ref	ref	ref
4-9	-5,79	-7,7 ***	-22,18 ***	1,97	6,19
Time partner	0,34 ***	0.24 ***	0.09 ***	0,52 ***	0.4 ***
Constant	179,39 ***	16,94 ***	26,85 ***	69,64 ***	58,61 **
R squared	0,30	0,09	0,17	0,37	0,32

^{*}p<.1, **p<.05, ***p<.01

Table 4. OLS results for mother's time spent on child care, by type of task (general model)

	Total	Developmental	High intensity	Low intensity	Supervision
Age	-4,11 ***	0	-1,22 ***	-0,8 *	-1,7 ***
Age squared	-0,04	-0,04 **	-0,06 *	-0,07	0,13 **
Weekend	-5,59	-6,56 ***	-13,94 ***	-5,95	0,44
Education					
Primary or less	-4,67	-2,31	-5,4	-13,34 **	12,52 *
Secondary I	ref	ref	ref	ref	ref
Vocational	0,89	1,35	3,06	3,73	-4,52
Secondary II	13,58	6,81 ***	2,49	4,53	-0,47
College	31,14 **	10,42 ***	10,69 **	4,48	4,19
Activity					
Active	ref	ref	ref	ref	ref
Unemployed	144,77 ***	9,34 ***	35,43 ***	50,42 ***	50,76 ***
Out of the labour market	177,88 ***	11,13 ***	44,76 ***	60,46 ***	62,72 ***
Working hours per week					
<20	19,06	1,61	-0,48	6,86	15,59 **
Full time	ref	ref	ref	ref	ref
>45	-67,2 *	-10,53	25,61 *	-38,5 *	-33,33 **
Flexibility	35,13 ***	3,23 *	5,71	13,54 **	12,97 **
Household income					
<1000	ref	ref	ref	ref	ref
1000-1999	-33,64 ***	-4,04 **	-2,49	-10,67 *	-39,26 ***
2000-3000	-8,77	-1,77	7,12 *	2,13	-19,51 ***
>3000	-3,63	-2,59	5,67	0,95	-14,96 **
No of children					
1	ref	ref	ref	ref	ref
2	33,49 ***	-0,27	7,72 ***	16,65 ***	8,62 *
3 or more	45,88 ***	-1,02	2,81	10,61	22,06 **
Age youngest child					
0-3	ref	ref	ref	ref	ref
4-9	-145,31 ***	-4,68 ***	-88,69 ***	-19,01 ***	-39,26 ***
Time partner	0,46 ***	0.22 ***	0.27 ***	0,57 ***	0.65 ***
Constant	431,27 ***	20,87 ***	121,85 ***	153,28 ***	150,48 ***
R squared	0,36	0,09	0,34	0,36	0,33

^{*}p<.1, **p<.05, ***p<.01

Table 5. OLS results for father's time spent on child care, by level of homogamy and type of task

	Total	Developmental	High intensity	Low intensity	Supervision
Both primary	ref	ref	ref	ref	ref
Both secondary	28,75 **	6,63 ***	9.43 ***	7.20	6.91
Both college	80.34 ***	10.06 ***	33.01 ***	24.88 ***	18.24 **
She primary, he secondary	13.03	5.33	1.33	4.83	3.15
She primary, he college	-85.34	14.06	-13.68	-51.21	-30.16
She secondary, he primary	-8.14	4.04	2.88	-2.19	-8.61
She secondary, he college	38.44 **	4.38	19.58 ***	11.39	9.63
She college, he primary	68.93	14.07	29.63 **	37.16	3.27
She college, he secondary	64.40 ***	6.39 **	24.58 ***	16.87 *	21.84 **
R squared	0,31	0,09	0,17	0,37	0,33

^{*}p<.1, **p<.05, ***p<.01

Controlling for age, age squared, weekday, activity, working hours, flexibility, number of childrem and age of youngest child, income and partner's time dedication

Table 6. OLS results for mother's time spent on child care, by level of homogamy and type of task

	Total	Developmental	High intensity	Low intensity	Supervision
Both primary	ref	ref	ref	ref	ref
Both secondary	21.58	3.25	10.39 *	24.30 ***	-12.75
Both college	35.74 *	12.05 ***	14.83 **	30.97 ***	-14.06
She primary, he secondary	14.18	-0.38	9.07	9.37	-2.93
She primary, he college	23.17	-3.79	23.01	46.27	-26.30
She secondary, he primary	30.84	6.19 *	16.58 **	17.25 *	-4.30
She secondary, he college	2.40	8.53 **	11.92	19.94 **	-30.56**
She college, he primary	-12.02	13.97	20.42	-25.16	-8.99
She college, he secondary	56.30 ***	11.91 ***	20.07 ***	29.14 ***	-1.26
R squared	0,36	0,09	0,34	0,36	0,33

^{*}p<.1, **p<.05, ***p<.01

Controlling for age, age squared, weekday, activity, working hours, flexibility, number of childrem and age of youngest child, income and partner's time dedication

Table 7. OLS results for father's time spent on child care, by relative resources and type of task

	Total	Developmental	High intensity	Low intensity	Supervision
Same very low	ref	ref	ref	ref	ref
Same low	17.00	3.03	4.12	-13.81	23.96 *
Same medium	40.89	9.13 *	8.10	7.30	20.93
Same high	42.79	11.01 **	6.67	8.34	18.55
She higher	39.42	11.85 **	12.46 *	-3.70	22.79 *
He higher	-13.95	4.68	-3.88	-18.91	3.12
Unknown	27.98	6.39	-2.69	-25.71 *	21.06 *

^{*}p<.1, **p<.05, ***p<.01

Controlling for age, age squared, weekday, activity, working hours, flexibility, education, number of children, age of youngest child, and partner's time dedication

Table 8. OLS results for mother's time spent on child care, by relative resources and type of task

	Total	Developmental	High intensity	Low intensity	Supervision
Same very low	ref	ref	ref	ref	ref
Same low	27.71	-3.24	7.87	20.37	5.05
Same medium	15.47	-3.35	17.09 *	10.51	-3.28
Same high	31.33	5.22	11.36	17.45	3.99
She higher	-11.43	-5.82	4.12	9.85	-13.62
He higher	31.65	-2.82	8.57	21.50 *	9.17
Unknown	63.01 **	-2.01	13.61	-7.74	19.54

^{*}p<.1, **p<.05, ***p<.01

Controlling for age, age squared, weekday, activity, working hours, flexibility, education, number of children, age of youngest child, and partner's time dedication

Table 9. OLS results for father's time spent on child care, by socio-economic status and type of task

	Total	Developmental	High intensity	Low intensity	Supervision
Higher grade professinals & managers	41,73 ***	-0,07	21,34 ***	14,6 **	0,13
Lower grade professinals & managers	25,83 **	-2,27	16,24 ***	-5,24	7,07 *
Routine non manual employees	8,55	0,35	8,65 ***	-3,77	0,14
Self-employed and small proprietors	10,55	-2,61	4,84 *	6,37	-3,2
Skilled manual workers	ref	ref	ref	ref	ref
Semi skilled and non skilled workers	-5,86	-2,96	-2,29	2,85	-4,27
Not working	4,55	-16,13 ***	-5,44	22,81 *	1,87
R squared	0,29	0,1	0,17	0,38	0,32

^{*}p<.1, **p<.05, ***p<.01

Controlling for age, age squared, weekday, activity, working hours, flexibility, number of children and age of youngest child, partner's inactivity and partner's time dedication

Table 10. OLS results for mother's time spent on child care, by socio-economic status and type of task

	Total	Developmental	High intensity	Low intensity	Supervision
Higher grade professinals & managers	48,29 **	12,9 ***	13,04 **	13,45	1,99
Lower grade professinals & managers	29,65 *	6,78 **	6,32	19,02 **	-0,58
Routine non manual employees	32,81 *	6,34 **	3,21	12,86	8,73
Self-employed and small proprietors	20,89	9,32 ***	1,17	1,30	8,91
Skilled manual workers	ref	ref	ref	ref	ref
Semi skilled and non skilled workers	18,59	1,00	2,34	0,98	17,14 *
Higher grade professinals & managers*housewife	143,78 ***	14,78 ***	34,32 ***	52,73 ***	48,69 ***
Lower grade professinals & managers*housewife	146,82 ***	10,68 **	23,26 **	72,63 ***	41,91 ***
Routine non manual employees*housewife	217,18 ***	13,75 ***	50,04 ***	71,4 ***	83,29 ***
Self-employed and small proprietors*housewife	200 ***	18,36 ***	39,64 ***	67,58 ***	77,31 ***
Skilled manual workers*housewife	181,06 ***	9,06 ***	44,47 ***	62,6 ***	65,26 ***
Semi skilled and non skilled workers*housewife	176,85 ***	13,42 ***	39,31 ***	47,64 ***	74,24 ***
Not working	188 ***	10,86 ***	44,47 ***	13,85	73,20 ***
R squared	0,35	0,08	0,34	0,37	0,33

^{*}p<.1, **p<.05, ***p<.01

Controlling for age, age squared, weekday, working hours, flexibility, number of children, age of youngest child, and partner's time dedication

4. Summary and discussion

The main objective of this paper was to analyse the factors that influence the time that parents spend with their children, focusing on the case of Spain. The two main hypotheses that we identified concerned Relative Resources and Social Status. According to the first hypothesis, couples would negotiate the time devoted to child care relying on their bargaining power. For the second hypothesis, parents do not negotiate child care as they do with housework activities; parental time with children would depend more on parents' social

position. Overall, the results obtained are more consistent with the Social Status hypothesis than with the Relative Resources hypothesis. Higher educational attainment and higher social status position is associated with more time spent with children for both men and women, although women's position seems to have a stronger influence on child care.

In addition to the total time spent with children, we have considered whether these hypotheses may help us explain the quality of the time invested in child care. We have differentiated four types of activities: developmental care, high-intensity activities, low-intensity activities and supervision or passive care, depending on the degree of parent-child interaction and on the abilities implied. As expected, the relative resources approach may have some explanatory power when applied to supervisory or routine care, but certainly it is not consistent with the results of our analysis for more demanding types of care. For these types of care, which are less time consuming but more crucial for the life chances of children, the Social Status hypotheses is of particular relevance.

This pattern of child care time allocation points at the polarisation of parental involvement with children: parents from more advantaged social backgrounds are investing more time of higher quality with their children than parents from less advantaged backgrounds, always according to our classification of activities. The institutional setting, e.g. the educational system, may modify the potential negative effects of such polarisation. In the Spanish case, most children over three years of age attend school, but the coverage of the public sector for children in this age group is still under-developed. As a result, those families that cannot afford to externalise child care usually receive external help from other family members, a strategy which solves the conciliation problem but does not help to correct potential inequalities. Another source of inequality that we found in this analysis concerns gender: even when we controlled for employment and time availability, women spend more time on child care, especially during weekdays, whereas men concentrate their implication on weekends and do less routine activities. However, given that our data are cross-sectional, we could not measure the change in men's involvement in child care. And there has certainly been a change, as shown by the literature in other countries, and as illustrated by unemployed or inactive men's involvement in child care.

5. Bibliography

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