# Can an egalitarian reform in the parental leave system reduce the motherhood labor penalty? Some evidence from Spain /

¿Puede una reforma igualitaria del sistema de permisos parentales reducir la penalización laboral por maternidad? Alguna evidencia española

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#### Abstract

The article analyzes how an egalitarian reform in the parental leave system may reduce the motherhood penalty. We used a sample of heterosexual dual-earner couples, with children between 3-8 years old, residing in Madrid and its metropolitan area. We show, first, that the introduction of a 13-day paternity leave increased significantly the average number of days that employed fathers were off work after the birth or adoption of a child. Second, we found some empirical evidence that fathers who took longer leaves tended to be subsequently more involved in the care of their children. And third, we obtained some evidence in favor of the hypotheses that when the father is actively involved in the care of his child the mother tends to experience less work penalty. We also considered the effect of other variables such as having egalitarian gender attitudes, working in a family-friendly company, earnings and the working week.

#### Resumen

El artículo analiza cómo una reforma igualitaria en el sistema de permisos parentales puede reducir la penalización por maternidad. Usamos una muestra de parejas heterosexuales de doble ingreso, con hijos de entre 3-8 años, de Madrid y su zona metropolitana. Mostramos, primero, que la introducción del permiso de paternidad de 13 días ha incrementado significativamente el número promedio de días que los padres trabajadores están de baja tras tener/adoptar un niño/a. Segundo, mostramos que los padres que se toman permisos más largos tienden posteriormente a implicarse más en el cuidado infantil. Y tercero, obtenemos evidencia a favor de la hipótesis de que cuando el padre se implica activamente en el cuidado del bebé la madre tiende a experimentar una penalización laboral menor. Además consideramos el efecto de otras variables tales como las actitudes de género igualitarias, el hecho de trabajar en una empresa familiarmente responsable, los ingresos y la jornada laboral.

#### Keywords: Paternity leave, father involvement, motherhood penalty, policy reform

**Palabras clave:** Permiso de paternidad, implicación del padre, penalización por maternidad, cambio de política

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#### INTRODUCTION

Over recent decades (and in different contexts) we have witnessed a growing participation on the part of men (and in particular of fathers) in domestic chores and the care of small children (Richter and Seward, 2008; Fursman and Callister, 2009; Esping-Andersen *et al.*, 2013). This is a slow process and is taking place more out of step and more slowly than the incorporation of women into the workplace (Hook, 2006; Kaufman, 2013). Nevertheless, it seems to be a phenomenon established firmly enough and one treated with sufficient sensitivity by society. In this sense reference is often made to a "new father" (Yeung *et al.*, 2001) or "superdads" (Kaufman, 2013); of a "new masculinity" (Connell, 2014); of a "new culture of fatherhood" (Wall and Arnold, 2007; Meil, 2013); or of a "involved fathering" (Gatrell *et al.*, 2015). This typology of father (found mostly among young males with high levels of education and egalitarian gender attitudes) may not be the mainstream but it is emerging.

This higher involvement of the father in the care of the baby and small children is positive for the welfare of the children (Pleck, 2007; Sarkadi, *et al.* 2008; Lamb, 2010; Huerta *et al.*, 2013); and it is also good for the welfare of men themselves (Haas and Hwang, 2008), who, among other things, can develop a richer masculinity than the traditional hegemonic masculinity (Connell, 2005; Kimmel, 2017).

But that greater father involvement is also very good for the advancement of women (and mothers) in the workplace does not halt. In general it is mentioned that a full shared responsibility between women and men in domestic work and care tasks is a necessary condition for reaching convergence in results between these two groups in the labor market (Bjørnholt, 2014). For the specific case of child and baby care the problem of lack of shared responsibility may be accentuated as a result of a phenomenon such as the "retraditionalization" (Schober, 2011; Grunow *et al.*, 2012; Habib, 2012; Abril *et al.*, 2015a and 2015b). Indeed, when a child is born (particularly the first child) some couples activate or accentuate traditional gender roles, which generates a shift toward a higher gender-based division of labor in the family (independent of spouses' relative economic resources). Therefore designing policies to further progress in this specific area of share responsibility in parenting is key to reducing or eliminating the phenomenon that we want to analyze in this article -the "professional motherhood penalty" (Raley *et al.*, 2012).

In this sense, regarding parental leaves, there is now an international trend to adopt reforms aiming to introduce parental leaves that are egalitarian in terms of gender (often with some kind of mechanism to encourage the father to use them) (Moss and Deven, 2015; Eydal and Rostgaar, 2015). The arguments related to gender equality are a fundamental line in the justification of these policies of parental leave reform. The literature on this issue shows that men tend to respond well to the introduction of well

paid and non-transferable leaves (Duvander and Johansson, 2012; Ekberg *et al.*, 2013; Escot *et al.*, 2014; Eydal *et al.*, 2015; Castro and Pazos, 2016); meanwhile, the fact of taking longer leaves may promote greater subsequent involvement of the father in childcare (Duvander and Jans, 2008; Haas and Hwang, 2008; Kotsadam and Finseraas, 2011; Meil, 2013; Arnalds *et al.*, 2013; Fernández-Cornejo *et al.*, 2016); and these resulting higher levels of shared responsibility in the care of babies and young children may result in mothers making fewer professional sacrifices in order to care for the child (the motherhood penalty would be lower).

The basic aim of this article is to cast light and empirical evidence on the previous argument. Is the penalty for motherhood lower for those women whose partners are fully involved in baby care? Can the introduction of non-transferable and well-paid leave for the fathers cause them to become more involved in the care of their babies? For this purpose we are going to use a sample (collected in 2012) of 795 heterosexual dual-earner couples (at the time of the birth of the reference child), with children between 3 and 8 years old, residing in Madrid and its metropolitan area. In this sample the research unit is both parents (the couple), so for each observation we have matched information on the characteristics and perceptions of both partners. We use path analysis modeling as a main analytical tool (Hayes, 2013).

#### Spanish context

With respect to the cultural context, Spain is a Mediterranean Latin Country that until the seventies in the 20th century was a quite traditional society with a division of household labor largely traditional (patriarchal), with strong family values; but where values and social norms (including gender norms) have been evolving quite quickly towards those existing in the most advanced societies, and towards a dual-earner family model (Dema-Moreno and Díaz-Martínez, 2010; Naldini and Jurado, 2013; Valiente, 2013; Fernández-Cornejo, 2016b). This has been reflected in a significant increase in female participation in labor force. The activity rate (Economically Active Population Survey 2015) among women between the age of 25 and 44 has risen from 45.1% in 1987 to 85.0% in 2015 (the figures for men were 94.9% and 93.6%, respectively).

Nonetheless, there are still significant gender inequality in the labor market and the home. The wage gap in terms of gross hourly wage stood at 16.8% in 2013; the percentage of female workers working part time was 26.1%, whereas for male workers it was 8.0% in the first quarter of 2015. There are still important levels of horizontal and vertical gender segregation in the labor market (Dueñas *et al.*, 2014). Moreover the ratio of average time spent by women and men to "household and family" was 216.7%, according to the Time Use survey (2009-10). Furthermore, as it is highlighted

by Abril *et al.* (2015 a,b), often an important discrepancy can be observed between egalitarian family ideals and the survival of a family reality strongly marked by gender.

Despite what is stated above, in Spain the target of gender equality has become increasingly important in political and social discourse, and this has been reflected in public equality policies and particularly in the Law for Equal Opportunity between Women and Men of 2007. One relevant policy reform originated in this law was the introduction in March 2007 of a non-transferable 13-day paternity leave, that is has been used by most eligible fathers. This policy reform is considered in our analysis. However, and not covered by our study, a new paternity leave of four weeks came into force in January 2017.

Finally, it must be borne in mind that at the time of implementing our survey (2012) the Spanish economy was experiencing an important economic crisis, whose worst consequence has been to generate a very high unemployment rate, which must be conditioning the decisions of the couples included in our sample.

#### THEORETICAL JUSTIFICATION AND REVIEW OF THE LITERATURE

#### Gender division of work

In the literature on the sexual division of work (Meil, 2013; Lapuerta, 2014) two types of influences can be distinguished which simultaneously determine how housework (especially childcare) is divided between the couple. The first one is related to economic incentives (and opportunity cost), and includes the comparative advantage approach and that of bargaining models. According to the comparative advantage theory (Becker, 1965, 1981), given a specific endowment of resources (human capital and wage, domestic work skills, etc.) between the couple, each of them will tend to specialize partially or completely in the area in which each of them has a comparative advantage (specialization is utility maximizing when partners' earning power differs). Moreover, the bargaining models (Manser and Brown, 1980; McElroy and Horney, 1981; Sen, 1990; Lundberg and Pollack, 1996) (in which the unit of analysis is the individual, not the home), argue that the distribution of available time between the couple between paid and unpaid work (it is assumed that domestic work, including looking after small children is an unpleasant activity) depends on the bargaining power of each of them (which depends, inter alia, on the earnings of each one). This bargaining power is determined by his and her "threat point" (the level of well-being that each would attain if the couple cannot reach agreement and get divorced).

The second of these influences is that of gender norms. The Identity Economics approach (Akerloff and Kranton, 2000, 2010) tackles this question. The Identity Economics constitutes an application to the area of Economics of the Social Identity

approach (Tajfel and Turner, 1979; Haslam, 2001; and Haslam *et al.*, 2010), and has the peculiarity of being able to include aspects related to identity (mental frame of oneself) in the rational choice models of the Economics (based on the use of utility functions). Starting from an approach like that of the previous paragraph (economic incentives) three identity elements will now be added. First, social categories: "men" and "women". Second, the norms and ideals for each category: "Some tasks are labeled appropriate for men; other tasks are labeled appropriate for women". Specifically, according to traditional gender norms, "housework and childcare is a primary responsibility of the woman". And third, gains and losses in identity utility (which is the gain when actions conform to norms and ideals, and the loss insofar as they do not): Women lose utility from doing a man's task or job; and men lose utility from doing a woman's task or job.

As pointed out by Akerlof and Kranton (2010), if the gender norms were not important, in accordance with "comparative-advantage" model, the partner who works more inside the home will work less outside the home. But according to the empirical evidence, this is not the observed pattern. Women, even when they work more hours outside the home and supply the majority of the income, do more of the housework (Darling-Fisher and Tiedje, 1990; Hersch and Stratton, 1994; Tsuya *et al.*, 2000; Rizavi and Sofer, 2010; Dema-Moreno and Díaz-Martínez, 2010; Hofner *et al.*, 2011). This would be because (assuming that the partners have some traditional gender attitudes) in an identity model, a woman or man will lose identity utility when performing a gender inappropriate task. There also exist time use studies showing that many couples experience a retraditionalization of gender roles after the birth of their first child (Dribe and Stanfors, 2009; Nomaguchi, 2009; Schober, 2011; Hofner *et al.*, 2011; Grunow *et al.*, 2012). And, similarly, the literature on uses of time clearly shows that gender segregation in domestic work is quite persistent over time (Kan *et al.*, 2010).

#### "New fathers"

However, at the same time we can talk of the emergence of the ideal of a "new father" (Bonney *et al.*, 1999; Devreux, 2007; Fursman and Callister, 2009; Fox *et al.*, 2009; O'Brien and Moss, 2010; Gregory and Milner, 2011; Romero-Balsas *et al.*, 2013; Meil *et al.*, 2017a; Meil *et al.*, 2017b), who is a direct and involved carer of their children. O'Brien and Moss, referring to the case of Europe, state that "today fathers are expected to be accessible and nurturing as well as economically supportive to their children". And Kaufman (2013), referring to the case of United States, affirms that "(...) fathers are expected to work long hours but are also expected to be highly involved with their children".

The "new father" figure has been criticized, for example by Devreux (2007), who considers that often these researches assign more importance to the way men "feel" about the space of family life than to actual changes in practice. Nonetheless, what the literature seems to show is that, even though it might be a minority, there is a group of fathers with advanced attitude towards gender and care who clearly see that they wish to be involved in looking after their small children.

In the case of the United States, Kaufman (2013) makes a distinction between "new fathers" —men who seek a better work-family balance- and "superdads" -men who make large changes in their work lives in direct response to their role as fathers.

For the case of Spain, Romero-Balsas *et al.* 2013 analyze (on the basis of an analysis with 30 in-depth interviews) how Spanish fathers construct and justify their decisions to use parental leaves. They identify a minoritary group of "new fathers" with a clear pro-care discourse and a discursive awareness of the need to balance personal, family, and work time. Furthermore, Abril *et al.* (2015b) in their qualitative study with 68 couples refer to this type of parents as "committed fathers".

# How the participation of the fathers in childcare changes when the mother works more hours.

As was mentioned previously, women do more of the housework, even when they work more hours outside the home and supply the majority of the income. But even in this context of non-egalitarian sharing of work within the household it is important to know to what extent there are factors which produce a change in this unequal distribution, and one of these factors is the growing number of women and mothers working outside the home. When the woman works more hours outside her home does the father tend to do more of the housework? Centering our attention on childcare, empirical evidence with time-use data shows clearly two types of results. First of all, there exists a group of studies which found some sort of relationship between the mother's participation in the labor market and the father's involvement in childcare, albeit this relationship is rather weak and unsatisfactory (Darling-Fisher and Tiedje, 1990; Bonney *et al.*, 1999; Suppal and Roopnarine, 1999; Kitterød and Pettersen, 2006; Nkwake, 2009; Rizavi y Sofer, 2010).

For example, Kitterød and Pettersen (2006), using the Norwegian time-use survey, find a non-linear relationship between mother's working hours and the father's familywork. The father makes up for the mother's absence only when she works short hours and only for certain chores. Full-time employment for the mother does not increase the father's contribution in any types of family-work. They suggest that dual-earner parents rely mostly on external childcare to substitute for the mother's absence. Rizavi and Sofer (2010) use the French Time Use Survey, focusing on couples where both partners participate in the labor market. They show that though a better relative position of the woman in the labor market increases her husband's share of household work, there is no role reversal in the division of labor.

Bonney *et al.* (1999) use a sample of fathers and mothers (n = 120) of preschool-aged children from USA, and obtain some evidence that regarding mothers' extended work hours serve to increase the father's participation in child care. However, there are other more important determining factors in the father's participation in childcare. Fathers' gender role ideology and attitudes about the fathers' role (positively) and father's long work hours (negatively) seem to be the most important determinants for fathers' involvement in child care.

In various social spaces, very different from the previous ones, a weak or non-existent relationship is obtained between the mother's participation in the labor market and the father's participation in child care, as in the cases of Suppal and Roopnarine (1999), for India, or Nkwake (2009), for Uganda.

Secondly and unlike previous studies Raley *et al.* (2012) show that the link between fathers' care of children and maternal employment and earnings is stronger when measures of caregiving capture fathers' increased responsibility for children. They use time diary data from 6,572 married fathers and 7,376 married mothers with children under age 13, from USA. Their results indicate that fathers engage in more "solo" care of children when their wives are employed; they are more likely to do the kind of child care associated with responsibility for their children when their wives spend more time in the labor market; they participate more in routine care when their wives contribute a greater share of the couple's earnings; and finally, the "father care" to "mother care" ratio rises when mothers contribute a greater share of household earnings.

#### Literature on motherhood penalty

In previous paragraphs a direction of causality has been used starting from the maternal employment to the fathers' care of children. However, causality can also go the opposite way. The fact that the father (perhaps a new father) is more actively involved in looking after young children might be a contributory factor to the mother feeling a lesser "motherhood labor penalty". For example, as is shown by Raley *et al.* (2012), studies of the motherhood wage penalty show that it is the division of labor surrounding children that seems to differentiate the activities of men and women and stall movement toward greater gender equality in labor market outcomes.

As pointed out by the literature on the motherhood wage penalty, basically formed by empirical studies based on longitudinal survey data and panel analysis models (Budig and England, 2001; Data-Gupta and Smith, 2002; Anderson *et al.*, 2002; Anderson *et al.*, 2003; Molina and Montuenga, 2009; Budig and Hodges, 2010; Wilde *et al.*, 2010), traditional gender norms mean that the costs of childbearing fall disproportionately on women, in the form of a lower labor supply and a loss of human capital by the mothers, all of which affect negatively their wage trajectories. Mothers are more likely than fathers to drop out of the labor force, cut back to part-time employment, using compensating wage differential mechanisms (accepting a lower wage in exchange for having a less demanding job or having a occupation that is more family-friendly), or pass up promotions. Furthermore, to the loss of wages suffered by mothers compared to non-mothers we must add the possible wage bonus received by fathers compared to men who are not fathers (Hodges and Budig, 2010).

In most of these studies it is stated that the lack of shared responsibility between mothers and fathers in childcare is one of the basic causes of motherhood penalty. However, given the limitations of the longitudinal survey data used, normally the father's involvement in childcare cannot be included in the analysis as an explanatory variable. Even then, in some studies an attempt is made to introduce indirectly the father's participation into childcare, via the number of hours worked by the husband (if these are fewer the husband is assumed to have more available time to share childcare tasks).

For example, Buding *et al.* (2010) assume that there are two aspects of the husband that may influence the motherhood penalty (the importance of which would depend upon the situation of the mother across the women's earning distribution): Husband's earning and husband's time availability. Husband's earning may have a greater effect on low-earning women (spousal earnings may enable low earning women to trade job amenities for wages, producing larger motherhod penalties). By contrast, husband's time availability may have a greater effect for high-earning women. These women are less likely to be dependent on their husband's income. For them husband's work hours and availability to share childcare task may matter more (having husbands who work fewer hours may lead to a smaller motherhood penalty because a reduced work schedule may enable the husband to provide more childcare). However, in their study, based on data of white American women from 1979-2004 waves of the NLSY, they could not find empirical evidence of this relationship.

On the other hand, Herrarte *el al.* (2012) do obtain some evidence for the case of Spain. They do not analyze the motherhood wage penalty but the effect of childbirth on Spanish women's decisions to withdraw from paid work. They use a pool of cross-sectional data corresponding to four waves of the second quarters of the Spanish Labor Force Survey (EPA) from 2001 to 2004. Their results show that if the male

partner works long hours or if he works outside the region of residence, his female partner will be more likely to leave the labor market.

Finally, Ekberg *et al.* (2013), using a natural experiment setting, evaluated the introduction of the 1995 'daddy month' reform in Sweden in three fields: take-up rates, involvement in childcare, and long-term effects on female earnings and employment. They found that men took much more parental leave after the reform. However (and probably due to the limitations of their dataset), they did not find a robust evidence of a change in the behavior of fathers in terms of childcare (the indicator of fathers' involvement in childcare that they used was the proportion of fathers using the leave to care of sick children); and they did not find a statistically significant positive long-term effects on female earnings or employment rates.

# **MODEL AND HYPOTHESES**

# Hypothesized model

According to what was mentioned in the previous section, if the father is more involved in childcare the motherhood labor penalty will be lower; fathers are more involved when they have favorable attitudes to it and when they have fewer restrictions to do so. In particular, having been longer in parental leave (for example, because of the introduction of a policy reform that extended parental leave for the father) seems to positively influence their involvement. This is the kind of arguments that we consider in our model.

Figure 1 presents our hypothesized model. It depicts the different variables that could explain (directly or indirectly) the motherhood labor penalty. Some of the exogenous variables correspond to the approach of gender roles ("Father's egalitarian gender attitudes" and "Mother's egalitarian gender attitudes"); whereas the other exogenous variables correspond to the economic-rational approach.

First, as can be seen in the figure, we assume that these seven variables influence the variable "Motherhood negatively affected mother's career" both directly as well as indirectly through the effect of some of them on "Father's involvement in childcare" (and also through "Father's total duration of childbirth leave"). To put it another way, the father's involvement in childcare would be a mediating variable between some of these seven variables and the motherhood labor penalty. Thus, in our hypothesized model we assume that some of the determinants of the father's involvement in childcare are the same as those for the motherhood labor penalty.

Second, an exclusive determining factor of the duration of childbirth leave is the introduction of paternity leave (a policy change). A part of our sample (50.2% of

fathers whose children were born after March 2007) took advantage of the new 13day paternity leave.

Third, we assume that the mere fact of taking longer leave influences the subsequent involvement of the father in childcare, in line with empirical researches such as Seward *et al.* (2006) and Nepomnyaschy and Waldfogel (2007), for United States; Tanaka and Waldfogel (2007), for United Kingdom; Haas and Hwang (2008) and Duvander and Jans (2008), for Sweden; Hosking *et al.* (2010), for Australia; and Meil (2013) and Fernández-Cornejo *et al.* (2016a), for Spain.

Fourth, in line with the literature reviewed in the previous section, we consider in our analysis the direct and indirect effects of gender attitudes of the father and the mother on the involvement of the father in childcare; and the direct and indirect effects of several labor and contextual variables (father's earnings, mother's working week, working in a family friendly workplace) on the motherhood labor penalty.

Fifth, we consider five control variables (not depicted in the figure) (see them in the section of Method).

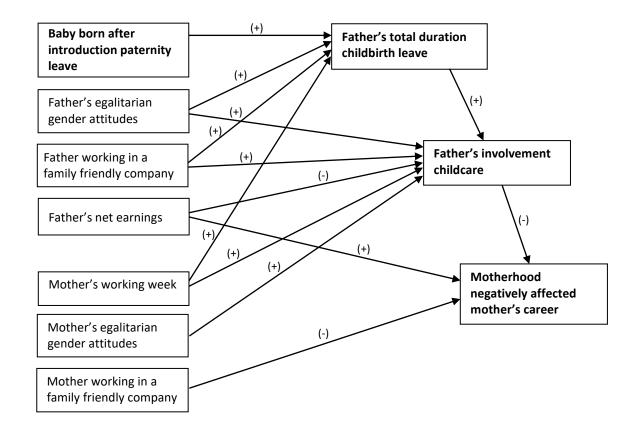


Figure 1. Hypothesized model of the determinants of motherhood labor penalty

# Contrasting Hypothesis.

Hypothesis 1. The fact that the father is actively involved in the care of his child is negatively related to the work penalty experienced by the mother (a negative and statistically significant relation exists between "Father's involvement in childcare" and "Motherhood negatively affected mother's career").

Hypothesis 2. The introduction of egalitarian reforms in the parental leave system (that give new leaves to fathers) help reduce gender inequality in the labor market. Indeed, through the mediating variables "Father's total duration childbirth leave" and "Father's involvement childcare", "Baby born after introduction paternity leave" is negatively associated with "Motherhood negatively affected mother's career".

Hypothesis 3. The fact that the father and the mother have egalitarian gender attitudes is negatively related to the labor penalty experienced by the mother. This relationship is mediated by the variable "Father's involvement childcare".

Hypothesis 4. The organizational end economic restrictions affect the motherhood labor penalty. In particular, the fact that the father (indirect effect) and the mother (direct effect) work in a family friendly company is associated with a lower motherhood labor penalty. The higher the earnings of the father the higher will tend to be the motherhood penalty, both indirectly (having a high salary means a higher opportunity cost of the time the father spends with the baby) and directly (the greater the father's earnings the greater the probability that he will earn more than her, and so the greater will be the tendency for her to be the person who assumes professional sacrifices in order to be able to balance family with work).

#### METHOD

# Database

Data were collected (from January to June 2012) from 1,130 households with children between 3 and 8 years old, residing in Madrid and its metropolitan area (Fernández-Cornejo *et al.* 2016). Sampling was obtained through several randomly selected schools belonging to 10 homogeneous geographic zones (in terms of the number of inhabitants). In each of these schools, some of the teachers distributed the questionnaires among their students (from "3 year", "4 year" or "5 year" of pre-school education; or from the first year of primary education) for them to give to their parents. Once the questionnaires were completed, the children returned them to the teacher in a sealed, anonymous envelope. Given the purpose of this article we were interested in households were: (a) the mother was married or cohabiting with the father when the baby was born; and (b) the mother and the father had a job when the baby was born. Thus from the initial sample we selected a sub-sample of 795

heterosexual dual-earner couples (at the time of the birth). The average age of these mothers and fathers when the "reference child" (the child who had given them the questionnaire) was born were 32.5 and 34.2 years respectively; 12.9% and 13.0% of mothers and fathers were immigrants; and 83.8% of the mothers and 85,3% of the fathers were wage earners.

The questionnaire had a closed structure and was divided into three parts: the first one had 7 common questions for both parents (household characteristics); the second part had 39 questions to be filled out by the mother; and the third part had 46 questions for the father. The objective was to gather information (from the mother and father) about how they organized (after birth) the care tasks of the reference child; and how these arrangements affected their respective careers.

# **Dependent Variable**

In the quantitative analysis that will be developed later the dependent variable will be "Motherhood negatively affected mother's career". The question asked to the mother was "In your opinion, being a mother, has impaired or slowed your career advancement?"; the response options were (Likert scale): "1"="not at all"; "2"="to a small extent"; "3"="to some degree"; and "4"="to a large degree" (see table 2). There was another question with which we obtained similar results to those obtained with the previous variable: "Who do you think has sacrificed more career opportunities for the fact of having a child?" (response options: "you", "your partner", "neither of the two"). For space reasons we do not include this second variable in this article.

# **Explanatory variables**

"Father's involvement in childcare (14 non-playful activities)". This is a measure that summarizes the relative participation of the father (compared to the mother) in 14 non-playful activities of childcare, during the first two years of the child's life. In two blocks of the questionnaire, both mother and father were asked the following question: "on a day-to-day basis, between zero and two years of the child's life, which of the members of the couple was in charge of the following activities?" A list of 18 activities followed the question (see table 1). The answers could be: (1) "mother mostly", (2) "mother somewhat more", (3) "same", (4) "father somewhat more", and (5) "father mostly". Two more options were added ("mostly grandparents" and "others") in cases when neither the father nor the mother was in charge of these activities. From this starting point the independent variable was obtained in the following manner; first, in cases when the answer was "mostly grandparents" and "others" we changed these answers to "same" (3), so as not to lose these cases. Second, we calculated the mean of the answers from the father and the mother. Third,

of the 18 existing items we chose 14 items corresponding to non-playful activities of childcare (an exploratory varimax factor analysis identified a factor including four "playful" or "rewarding" childcare activities; see table 1). And, finally, the measure was constructed as the average score of these 14 items (Cronbach's alpha=0.883). The range of values is from 1.00 to 4.50 (see table 2). The higher the value, the greater the father's involvement in these non-playful activities.

"Father's total duration of childbirth leave" reflects the total duration in days of the childbirth leave of the father. In the questionnaire the father was asked if he had used each of these different types of leaves and their duration: 2-day childbirth leave (paid by companies to wage earners); paternity leave (13-day paid leave introduced in March 2007); transferable part of the mother's maternity leave (up to ten weeks; used only for a very small percentage of men); accumulation of the breastfeeding leave (very small take-up); unpaid parental leave (very small take-up); other leaves; and vacation days. The range of days is from 0 to 477 (see table 2).

"Baby born after introduction paternity leave" is a dichotomous variable (1=yes; 0=no) indicating that the reference child was born after March 2007 (the date of the introduction of the 13-day paternity leave).

"Egalitarian gender attitudes" is a measure that was developed from 9 questions addressed to the father and to the mother that sought to determine whether the gender attitudes were traditional or egalitarian. Specifically, the respondent was being asked "to what extent do you agree or disagree with each of these statements?", and the response options (Likert scale) were: (1) "strongly agree", (2) "somewhat agree", (3) "neither agree nor disagree", (4) "somewhat disagree", (5) "strongly disagree". The 9 statements were: "Women have more ability for language and verbal expression, while men have more ability for spatial perception and mathematics"; "I consider it far more unpleasant to hear a woman who swears and says offensive words rather than to hear a man doing the same"; "A working mother can establish as warm and secure relationship with her children as a mother who does not work" (reverse scoring); "It would be good for society if the traditional roles of men and women were largely maintained"; "Women are more patient and tolerant than men by nature"; "A man may be as qualified as a woman to care for his baby and connect emotionally with him" (reverse scoring); "The ideal household would be one where the two partners work, but the woman works fewer hours than the man and she is responsible to a greater extent for family responsibilities and childcare"; "The fact that most nurses are women and most pilots are men has to do partly with different innate abilities of women and men"; and "It is likely that small children suffer if their mothers work". The measure is the average score of these 9 items (Cronbach's alpha= 0.732 for mothers and 0.747 for fathers). The range of values is from 1.44 to 5.00 for mothers and 1.22 to 5.00 for fathers (see table 2). The higher the score, the more egalitarian the gender attitudes.

"Working in a family-friendly company" is a measure developed from two questions where the respondent was asked: "indicate to what degree the company or organization where you worked met the following aspects when your baby was born". The response options ranked from 0 to 10, where "0=not at all" and "10=totally". These two aspects considered were: "My company was a family-friendly company in the sense that it facilitated the reconciliation of work and family life of the staff", and "The managers of my company were aware of the importance of the reconciliation policies". The measure is the average score of these 2 items (Cronbach's alpha= 0.916 for the mother and 0.905 for the father). The range of values is from 0 to 10 for both the mother and the father (see table 2). A greater value means that the respondent considers she/he works in a more family friendly company.

"Father's net earnings" is the monthly net income of the father. There are 8 categories: from (1) "Fewer than 600 Euros" to (8) "More than 4,000 Euros".

"Mother's working week" is the number of hours the mother worked per week at the time when the baby was born.

As control variables these five variables were also considered: "Mother's age" (at the moment the baby was born); "Father's age" (at the moment the baby was born); "Help from grandparents" (dichotomous variable: 1=yes; 0=no); "Help from domestic service" (dichotomous variable: 1=yes; 0=no); and "Older siblings", which is a dichotomous variable (1=yes; 0=no) which reflects the fact that the reference child has at least one older brother. None of these five variables had a statistically significant effect, and therefore they were not included in the path analysis subsequently developed.

#### RESULTS

#### **Descriptive statistics**

Table 1 shows the average score of participation of the father (compared to the mother) in the 18 activities of childcare considered in the questionnaire (scale of 1 to 5). These average scores show two aspects: First, the relative participation of the mother was higher in every activity (averages scores always below 3). Second, mothers tend to perform relatively more the most routine childcare activities whereas fathers tend to perform relatively more the most rewarding ones. This result matches the usual pattern observed in the studies of time use (Craig, 2006; Baxter and Smart, 2010; Kan *et al.*, 2010). In the present research we are interested in analyzing the father's

participation in the less rewarding childcare activities. For this purpose we decided to omit from our measure the 4 playful activities from the end of the list in the table.

The basic descriptive statistics of the 10 variables to be used in our path analysis are shown in table 2, as well as the corresponding correlations between these variables. Correlations are quite consistent with the relations raised in our hypothesized model. In this sense, for almost all direct relationships between variables raised in our model statistically significant correlations (with the expected sign) are observed. For example, the model states that there are three variables ("Father's involvement in childcare", "Father's net earnings" and "Mother working in a family friendly company") that are directly associated with the variable "Motherhood negatively affected mother's career", and indeed statistically significant correlations are obtained between those three variables and the latter (respectively, r=-.144, p=.000; r=203, p=.000; and r=-.160, p=.000).

Table 1. Eighteen childcare activities ordered from the most to the least feminised (br	/
1-5 score).	

	mother's	ge score of s and father's pinion	
	N	Mean	
h) Washing child's clothes	766	1.640	Non-Playful
g) Buying child's clothes	764	1.709	Non-playful
b) Cooking child's food	772	1.740	Non-playful
i) Organizing housework and childcare	770	1.839	Non-playful
c) Feeding the child	768	1.956	Non-playful
o) Taking child to the doctor	770	2.094	Non-playful
a) Buying child's food	772	2.138	Non-playful
q) Taking care of the child when he/she becomes ill at school/nursery	762	2.175	Non-playful
n) Comforting child when tired or ill	769	2.229	Non-playful
d) Changing diapers	767	2.301	Non-playful
p) Getting up at night	764	2.323	Non-playful
f) Putting child to bed	764	2.328	Non-playful
r) Dropping/ picking up child at school	753	2.427	Non-playful
I) Reading books to child	763	2.519	Playful
e) Bathing child	769	2.573	Non-playful
k) Taking child to the park	772	2.661	Playful
m) Teaching child something new	760	2.736	Playful
j) Playing with child at home	771	2.844	Playful

In the day-to-day, between zero and two years of the child, which of the members of the couple was in charge of the following activities?

Notes: Scores 1 to 5: "1"=mother mostly; "2"= mother some more; "3"=Same; "4"=father some more; and "5"=father mostly. Sample of heterosexual dual-earner couples (at the time of the birth).

	1	-		-	-	-		-		-	-			
	N	Min.	Max.	Mean	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Motherhood negatively affected mother's career	781	1.00	4.00	2.63	1.20	1.000		-	-			-		-
2. Father's involvement childcare	690	1.00	4.50	2.10	.57	144**	1.000	-	-			-		-
3. Father's total duration childbirth leave	795	.00	477.00	14.51	26.85	017	.126**	1.000	-			-		-
<b>4.</b> Baby born after introduction paternity leave	775	.00	1.00	.50	.50	.027	.051	.148**	1.000					
5. Mother's egalitarian gender attitudes	732	1.44	5.00	3.62	.70	038	.212**	.097**	045	1.000				
6. Father's egalitarian gender attitudes	740	1.22	5.00	3.50	.72	031	.290**	.108**	029	.554**	1.000	-		-
7. Father's net earnings	777	1.00	8.00	3.81	1.43	.203**	094*	015	014	.138**	.114**	1.000	-	-
8. Mother's working week	695	4.00	77.00	37.28	8.59	.037	.205**	.101**	019	.085*	.079*	.107**	1.000	
<b>9.</b> Mother working in a family friendly company	603	.00	10.00	3.47	3.39	160**	.016	.068	.022	006	.012	.013	009	1.000
<b>10.</b> Father working in a family friendly company	634	.00	10.00	3.30	3.24	071	.117**	.050	.055	.018	.075	.173**	.072	.179**

Table 2. Descriptive statistics and correlations (main variables)

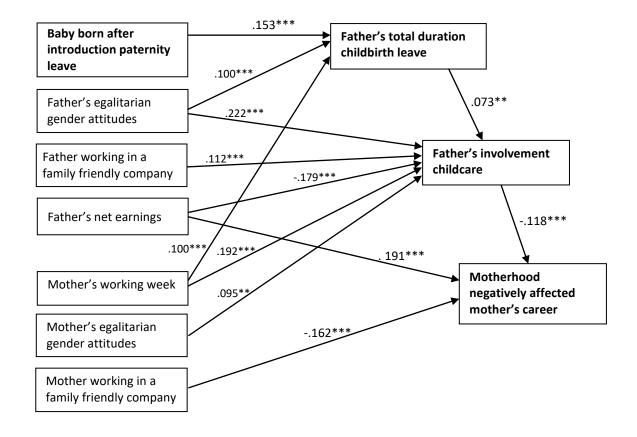
Pearson's correlation: (\*\*) Statistically significant at .01 (bilateral); (\*) statistically significant at .05 (bilateral)

#### Path analysis

Path analysis was conducted with the Amos 20.0 program in the SPSS 20.0 software package (Arbuckle, 2011).

First, we examined the fit to the data of our hypothesized model of the determinants of motherhood labor penalty (figure 1). In this initial model only one effect was not statistically significant ("Father working in a family friendly company" on "Father's total duration childbirth leave"). Thus we removed this path, resulting in a slight improvement in the fit to the data. The chi-square for this "final model" was not significant ( $\chi^2$ =17.981, df=18, p=.457), and its fit indices were better than before (CMIN/DF=.999, CFI=1.000, RMSEA=.000). Figure 2 shows the "final model" (standardized coefficients are provided for each path in the model).

#### Figure 2. Path analysis for the determinants of motherhood labor penalty (final model).



Notes: N = 795; \*p < .1; \*\*p < .05; \*\*\*p < .01. Standardized coefficients are provided for each path in the model tested.

Our four contrasting hypotheses appear to be confirmed by the data.

According to the final model, in support of hypothesis 1 (the fact that the father is actively involved in the care of his child is negatively related to the work penalty experienced by the mother), the path from "Father's involvement childcare" to "Motherhood negatively affected mother's career" has a negative sign and is statistically significant (-.118, p=.001).

"Baby born after introduction paternity leave" shows a positive and significant relation with "Father's total duration childbirth leave" (.153, p=.000); in turn this last variable shows a positive and significant effect on "Father's involvement childcare" (.073, p=.039). Therefore, through these mediating variables "Baby born after introduction paternity leave" is negatively associated with "Motherhood negatively affected mother's career". This means that, in support of hypothesis 2, a policy change -the introduction of a new 13-day, non-transferrable and well paid paternity leave- has contributed (indirectly) to reduce gender inequality (motherhood penalty) in the labor market.

According to hypothesis 3, the fact that the father has egalitarian gender attitudes has an important positive direct effect on his involvement in childcare (.222, p=.000), and also has an indirect effect on his involvement through the longer duration of childbirth leave (.100, p=.005). That is, the duration of childbirth leave is a mediating variable between these two. But the mother's gender attitudes are also relevant. Indeed, the path from "Mother's egalitarian gender attitudes" to "Father's involvement childcare" has a positive sign and is statistically significant (.095, p=.031). In sum, gender attitudes of both members of the couple turn out to be important indirect determinants of the motherhood penalty.

In the final version of the model the fact that the father works in a family friendly company does not have an effect on the duration of his leave, but it has a statistically significant effect on his involvement in childcare (.112, p=.004). On the other hand, "Mother working in a family friendly company" has direct and negative effect on "Motherhood negatively affected mother's career" (-.162, p=.000). So the fact that both members of the couple work in workplaces that facilitate work-family balance tend to reduce the motherhood penalty indirectly (in the case of the father) and directly (in the case of the mother).

The father's net earnings have an important effect (indirectly and directly) on motherhood penalty. Indeed, "Father's net earnings" has a negative and significant effect on "Father's involvement childcare" (-.179, p=.000) and a direct and significant effect on "Motherhood negatively affected mother's career" (.191, p=.000).

Finally, as was expected, the fact that the mother has a longer working week is related positively both with the duration of the father's leave (.100, p=.007) and with the involvement of the father in childcare (.192, p=.000).

All of these results related to the organizational and economic restrictions are in line with hypothesis 4.

# DISCUSSION

The survey used in this article is retrospective in character and included couples of mothers and fathers who had their child before and after the introduction of the 13day paternity leave in Spain, in March 2007. 386 fathers had their child before this policy change and 389 afterwards. The empirical evidence (Ekberg *et al.*, 2013; Escot *et al.*, 2014; Eydal and Rostgaar, 2015; Romero-Balsas, 2015; Castro and Pazos, 2016) shows that males respond largely to reforms which allow them access to nontransferable and 100% paid leaves. In line with this evidence, this article shows, first, that, in the case of Spain, the introduction of the 13-day paternity leave has increased significantly the average number of days that employed fathers are off work after the birth or adoption of a child.

Second, there is some empirical evidence (Seward *et al.*, 2006; Nepomnyaschy and Waldfogel, 2007; Tanaka and Waldfogel, 2007; Haas and Hwang, 2007; Duvander and Jans, 2008; Hosking *et al.*, 2010; Meil, 2013; and Fernández-Cornejo *et al.*, 2016a) showing that fathers who take longer leaves tend to be subsequently more involved in the care of their children. And precisely, through path analysis, in this article some evidence has been obtained in favor of this hypothesis, using a measure for the father's involvement in childcare (relative to the mother) that included 14 non-playful activities of childcare.

And third, we have tried to connect the father's involvement in childcare with the motherhood labor penalty. In this paper we have obtained some evidence in favor of the hypotheses that when the father is actively involved in the care of his child the mother tends to experience less work penalty (measured by the answer to the question "In your opinion, being a mother has impaired or slowed your career advancement?"). Why may a greater paternal involvement promote greater gender equality (less motherhood penalty)? Following Kaufman (2013), there are three ways: first, when men and women share tasks in one domain (e.g., at home), they are more likely to share tasks in another domain (e.g., in government). Second, men's greater participation in home life frees women to participate in public life. And third, men who are more involved with their children are likely to raise girls and boys who have a greater sense of gender equality. Given the characteristics of our sample our research may have provided evidence that acts through the second way.

According to our analysis, another important indirect determinant of motherhood penalty is the gender attitudes of the father (and the mother). The fact that the father has egalitarian gender attitudes has an important positive direct effect on his involvement in childcare, and also has an indirect effect on his involvement through a longer duration of childbirth leave. As a measure of egalitarian gender attitudes we used an instrument that included 9 items, with a range of values from 1.22 to 5.00 for fathers (from 1.44 to 5.00 for mothers), indicating a higher score a more egalitarian gender attitudes. If, for instance, we consider that gender egalitarian fathers are those whose scores are 4 or higher, then the percentage of fathers who hold egalitarian gender attitudes would be 29,6% (33.9% for mothers). Some of the members of this group of fathers may coincide with the emergent group of "involved fathers" identified in the qualitative literature on fathering as: "shared caregivers" (Habib, 2012); "new

fathers" or "superdads" (Kaufman, 2013); "demanding fathers" (Romero-Balsas *et al.,* 2013); "committed fathers" (Abril *et al.,* 2015a); or "involved fathers" (Gatrell *et al.,* 2015).

But the fact that the mother has egalitarian gender attitudes also has a positive direct effect on the involvement of the father in childcare. This result may be consistent with the hypothesis that women with more egalitarian gender attitudes tend to be more supportive of the involvement of his partner in childcare. That is, in this group of mothers there would occur less frequently the phenomenon of "maternal gatekeeping" –a collection of beliefs and behaviors of some mothers that may inhibit a collaborative effort between men and women in family work (Fagan and Barnett, 2003; Schoppe-Sullivan *et al.*, 2015).

Several contextual characteristics, such as fathers' workplaces, may impinge upon the father's involvement. Indeed, barriers in the workplace have been repeatedly reported by fathers as among the most important reasons for low levels of paternal involvement (Lamb and Tamis-LeMonda, 2004; Escot *et al.*, 2012; Kaufman, 2013; Abril *et al.*, 2015a). In line with this idea, in our sample the fact that the father works in a family friendly company has a positive and statistically significant effect on his involvement in childcare. Moreover, the fact that the mother works in a family friendly company has a direct and negative effect on "Motherhood negatively affected mother's career". So the fact that both members of the couple work in workplaces that facilitate workfamily balance tend to reduce the motherhood penalty indirectly (in the case of the father) and directly (in the case of the mother).

Finally, we obtained a series of results with the two variables concerning the labor characteristics of the mother and the father that were consistent with the economicrational approach (Blau *et al.*, 2014). First, the higher the earnings of the father the higher will tend to be the motherhood penalty. Having high earnings means a higher opportunity cost of the time the father spends with the baby, so the father will tend to devote fewer hours to childcare; on the other hand, the greater the earnings of the father the greater will be the probability that he will earn more than her, and thus the greater will be the tendency for professional sacrifices (in order to balance work with family) fall on the mother's side. And second, as was expected, the fact that the mother has a longer working week is related positively both with the duration of the father's leave and with the involvement of the father in childcare. This is consistent with the literature based in time-use surveys previously reviewed, and in particular with the results obtained by Raley *et al.* (2012).

Regarding public policy recommendations, the starting point is the fact that, as we have just seen, the introduction of egalitarian reforms of parental leave (that give new leaves to fathers) help reduce gender inequality in the labor market (a reduction in the

motherhood penalty). As shown in this article, even a timid reform -a new paternity leave of only 13 days- seems to have positive effects in this area. For this reason, a public policy that aims to promote a significant advance in shared responsibility between mothers and fathers in childcare (and the advance in the elimination of motherhood penalty) should carry out a progressive evening up of paternity leave with maternity leave, in such a way that, in the end, both mother and father would enjoy 16 weeks (in the case of Spain) of non-transferable (and well paid) leave (Castro and Pazos, 2016).

Secondly, and in parallel to the above, it would be desirable to improve the conditions in which the fathers (and mothers) access the reconciliation of work and family life. To do this, on the one hand, there should be further progress in reconciliation policies applied by firms (schedule flexibility measures, etc.). On the other hand, it would be necessary to eliminate (if any) the so-called "female bias" in reconciliation policies (Haas and Hwang, 2007; Holter, 2007; Levine and Pittinsky, 2007; Abril and Romero, 2008; Escot *et al.*, 2012; Burnett *et al.*, 2013), which means that male employees sometimes do not recognize as applicable to them the reconciliation policies of the companies, but they conceive them as policies for female employees only.

Finally, we must acknowledge two limitations of our research. First, our data are crosssectional data, asking people to think retrospectively about previous points in time. This strategy does not give it longitudinal strength and does not grant you the ability to use causal evidence and directional inferences (see Ekberg *et al.*, 2013). For this reason, a line of future research might be to apply the kind of analysis performed in this article but on the basis of longitudinal data. And second, apart from our indicator of motherhood penalty ("In your opinion, being a mother, has impaired or slowed your career advancement?") it would have been very interesting to have data about the change in the earnings of mothers as a way to measure it. In a potential future research with longitudinal data it would be very interesting to analyze the relation between the involvement of the father and the motherhood wage penalty.

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