Is it "good" to have a stay-at-home mom? Parental childcare time and work-family arrangements in Italy, 1988-2014[1]

Abstract

This article investigates whether there are childcare penalties and premiums at the intersection of gender, work-family arrangements and education among parents in Italy, a country with a familistic welfare state and a traditional division of labor within couples. The results indicate that children in male breadwinner households are not exposed to more childcare time than those living in a dual earner arrangement, except when both parents are highly educated, in which case a childcare premium emerges. The implications for social inequalities are discussed in light of the societal transformations that have occurred in the country over the past few decades.

Keywords: childcare time, work-family arrangements, Italy, time use, mothers, fathers.

[1] Giulia M. Dotti Sani, University of Milano Statale, via Conservatorio 7, Milano, E-mail: giulia.dottisani@unimi.it, orcid.org/0000-0001-8616-3078.

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Introduction

This article investigates changes in childcare time among parents with different work-family arrangements over four decades in Italy. Italy belongs to the southern/continental welfare system (Esping-Andersen, 1999, 2009) that is historically characterized by what Chiara Saraceno in 1994 defined as "ambivalent familism", according to which families are expected to rely on themselves, rather than on the state, to take care of their welfare needs (for example in terms of childcare and elderly care). Historically, this role of "welfare providers" has fallen on the shoulders of Italian wives, mothers and daughters, who were economically supported by a working male household member (husbands and fathers), resulting in the dominance of the male breadwinner family type (Esping-Andersen 1999, Lewis 1992). Twenty five years after the writing of Saraceno's seminal article, Italy is still characterized by relatively low levels of female employment (OECD 2019a) and by an ongoing presence of the male breadwinner work-family arrangement (Dotti Sani and Scherer 2018, Hook 2015). The division of domestic labor between partners is strongly gendered, with women shouldering the majority of domestic work (Dotti Sani 2018); fertility rates are among the lowest in the world (OECD 2019b); and, within Western Europe, the country has among the lowest levels of societal gender equality (EIGE 2015) and the most traditional attitudes towards gender roles (EVS 2019). Due to this unique combination of institutional and cultural features, Italy represents a highly informative yet under-researched case for analyzing the gendered way in which historical changes in women's paid work have translated into changes in unpaid work within homes.

Over the past few decades, Italian families have undergone a series of profound transformations, two of which are at the center of this article. The first concerns the increase in childcare time that has occurred among both mothers and fathers (Altintas and Sullivan 2017; Dotti Sani and Treas 2016; Gauthier, Smeeding, and Furstenberg 2004). This is generally considered a positive societal development, since studies show that children benefit from spending time with their parents, for example in terms of cognitive development (Bernal and Keane 2011; Lugo-Gil and Tamis-LeMonda 2008). Researchers are currently debating whether spending time with children is in itself beneficial, or whether it is the type of activity rather than absolute time which matters (i.e. the quantity vs. quality argument, see Cano, Perales, and Baxter 2019; Fiorini and Keane 2014; Kalil and Mayer

2016; Milkie, Nomaguchi, and Denny 2015). This research does not directly address the issue of quality. However, since it "is impossible to imagine quality arising without some level of quantity" (Kalil and Mayer 2016, 263), assessing changes in overall childcare time is a necessary first step.

The second, and perhaps more evident, societal change that has characterized Italy and other western countries over the past fifty years has been the surge in women's employment rates (ISTAT 2019; OECD 2019a; 2013). Internationally, the entrance of women into the labor market has led to considerable changes in work-family arrangements, i.e., in the "gendered patterns of breadwinning and caregiving" (Hook 2015, 15). Specifically, couples have moved away from the traditional male breadwinner model, in which the man specializes in market production and the woman in home production, towards the dual earner model in which both partners are employed (Lewis 2001; Lewis, Campbell, and Huerta 2008).

These increases in childcare time and female employment have been positively received by policy makers, the scholarly community and the wider public alike. However, considering that parental time is a limited resource (Hochschild 1997), the two trends might not be completely compatible across all social groups. In fact, time availability theory and empirical research indicate that employed parents spend less time on childcare than non-employed ones (Chesley and Flood 2017; Coltrane 2000; Craig and Mullan 2011; Kan, Sullivan, and Gershuny 2011; Shelton and John 1996). Therefore, children living in dual earner households might be systematically receiving less parental childcare time than children in male (or female) breadwinner households, while there might be a "childcare premium" for children of stay-at-home mothers. This is a relevant issue in times of growing female employment, since it could mean that children in certain work-family arrangements could be "time deprived", with potential consequences for social inequalities among children (Kalil, Ryan, and Corey 2012; McLanahan 2004).

Education is also a crucial predictor of both childcare time (England and Srivastava 2013; Sayer, Gauthier, and Furstenberg 2004; Sullivan, Billari, and Altintas 2014) and work-family arrangements (Becker 1991; Hook 2015; Korpi, Ferrarini, and Englund 2013), and therefore plays a role in the relationship between the two (Chesley and Flood 2017; Sullivan 2013). However, previous research has not systematically investigated the relationship between childcare, work-family arrangements and

parental education in the Italian context, which, despite its peculiar characteristics, has received less attention in the international literature on time use compared to other large economies (Dotti Sani and Treas 2016; Mancini and Pasqua 2009).

This article fills this gap in the literature by addressing the following research questions: 1) Has the historical increase in childcare time among Italian parents been similar for mothers and fathers with different work-family arrangements? 2) Does parental education play a role in the relationship between childcare time and work-family arrangement, and has this role changed over time? 3) Do children in dual earner households receive less parental time compared to children in male breadwinner households, and has this relationship changed over time? These questions are addressed using generalized linear models on four rounds of data from the Italian Time Use Survey (ITUS). The detailed information concerning time use and socio-demographics collected on four occasions (1988-89, 2002-03, 2008-09, 2013-14) make the Italian TUS an ideal dataset for this research.

The next two sections discuss, first, childcare time and its correlates and then changes in female employment and work-family arrangements from an international perspective. I then present the Italian case and outline the hypotheses. The data and methods will then be introduced, followed by the results and conclusions.

Background

Childcare time: gender, educational gradients and historical changes

Existing literature indicates that, across a wide range of countries, gender is the strongest predictor of childcare time and that mothers devote significantly more time to this activity than fathers (Dotti Sani and Treas 2016; Gauthier, Smeeding, and Furstenberg 2004; Sayer, Bianchi, and Robinson 2004; Sullivan 2013). Beyond gender, however, crucial predictors of childcare are a) time availability and b) education. Time is obviously a necessary requirement, and studies show that employed parents spend less time caring for their children than non-employed ones (Chesley and Flood 2017; Coltrane 2000; Craig, Powell, and Smyth 2014; Kan, Sullivan, and Gershuny 2011; Shelton and John 1996; Sullivan 2013). Furthermore, cross-national research indicates that highly educated mothers spend more time on childcare than their less educated counterparts (England and Srivastava 2013; Gimenez-Nadal and

Molina 2013; Guryan, Hurst, and Kearney 2008; Lareau 2003; Mancini and Pasqua 2009; Sayer, Gauthier, and Furstenberg 2004; Sullivan 2013), engaging in what is often referred to as "concerted cultivation" and "intensive parenting" (Hays 1996; Lareau 2000). Compared to less educated mothers, highly educated ones are more conscious of the benefits that come from spending time with children and are more willing to invest in this activity (England and Srivastava 2013; Sayer, Gauthier, and Furstenberg 2004; Sullivan, Billari, and Altintas 2014). The results for fathers are somewhat more ambiguous. Various cross-national studies suggest that higher educated fathers in western countries spend more time on childcare than less educated ones (Dotti Sani and Treas 2016; Sullivan 2010; Sullivan, Billari, and Altintas 2014). However, Sayer, Gauthier, and Furstenberg (2004) find that education has only a limited effect on fathers' childcare time in Germany and no effect in Norway. Similarly, England and Srivastava (2013) for the United States and Gimenez-Nadal and Molina (2013) for the United Kingdom and Spain find that paternal education has a negligible association with childcare time once maternal education is controlled for.

As anticipated, studies have revealed a considerable historical increase in childcare time among mothers and fathers in European countries, as well as in the United States and Canada (Bianchi 2000; Dotti Sani and Treas 2016; Gauthier, Smeeding, and Furstenberg 2004; Gimenez Nadal and Sevilla 2012; Maume 2011; Sandberg and Hofferth 2001; Sayer, Bianchi, and Robinson 2004; Sullivan 2010; Sullivan, Billari, and Altintas 2014; Sullivan and Gershuny 2001). The motivation for such trends appears to lie in a societal change in the value placed on childcare (Lareau 2000). Indeed, research suggests that there has been a shift in societal norms on parenting, which now encourage both mothers (Badinter 2012; England and Srivastava 2013; Hays 1996) and fathers (Duyvendak and Stavenuiter 2004; Henwood and Procter 2003; Hook and Wolfe 2012; Marsiglio et al. 2000) to spend more time with their children because of the known cognitive and emotional benefits of parental childcare time (Cano, Perales, and Baxter 2019; Hsin and Felfe 2014; Kalil and Mayer 2016). This increase in childcare time is somewhat at odds with the historical surge in female employment, discussed in the following section.

Changing female employment and work-family arrangements

Despite large increases in women's employment rates over the past decades, women worldwide are still less likely to be employed than men (Lewis, Campbell, and Huerta 2008; OECD 2019a) and a wage gap persists both in the United States (Blau and Kahn 2016) and Europe (Arulampalam, Booth, and Bryan 2007; Rubery, Grimshaw, and Figueiredo 2005). Alongside this, the transition from the male breadwinner to the dual earner model is far from complete (Esping-Andersen 2009; Hook 2015; Hook and Pettit 2016) and its pace varies cross-nationally. Currently, dual earner households are truly common only in Northern European countries (Gornick and Marcia 2003; Kitterød and Lappegård 2012), while women remain secondary earners in other areas of Europe (Hook 2015; Lewis, Campbell, and Huerta 2008).

Going beyond broad differences between women and men, scholars adopting an intersectionality approach have argued that "complex inequalities" exist involving multiple dimensions of inequality across different subgroups of the population (Choo and Ferree 2010; Crenshaw 1989). In this respect, the sociological, social policy, economic and demographic literature all underline how women's education and their parental status interact in explaining gender gaps in the labor market. Research shows that highly educated women have considerably higher employment rates across western countries (Cooke 2011; Evertsson et al. 2009; OECD 2019c), which is explained both by human capital theory (Becker 1991) and preference theory (Hakim 2002). By contrast, having children can curtail women's employment opportunities and wages due to difficulties in reconciling work demands and family needs (Aisenbrey, Evertsson, and Grunow 2009; England et al. 2016; Gornick and Marcia 2003; Hook and Pettit 2016). As a result, strong differences in employment emerge among mothers and fathers with different levels of education, resulting in patterns of work-family arrangements that are stratified by education. The Italian case, which is illustrated in the following section, represents a case in point of these complex inequalities.

The Italian case

Italy is an exceptional case in which to study the interplay of childcare time, work-family arrangements and parental education. Official statistics indicate that Italy has experienced an incredible increase in female employment over the past fifty years (OECD 2019a). The left-hand panel in Figure 1 compares OECD data on the employment rates for women aged 25 to 64 across four

large economies (Germany, Italy, Sweden and the United States) from 1970 to 2018. In 1970, only about 26% of Italian women were employed, against 42% in Germany, 46% in the United States and 58% in Sweden. By 2018, the employment rates of Italian women had more than doubled to 55%. Despite this impressive growth, the country missed the 60% target of the 2000 Lisbon Strategy and lags behind in international comparison: in 2018, in fact, female employment reached 69% in the United States, 77% in Germany and 82% in Sweden, where it almost equals male employment (87%). In contrast, the employment rate of Italian men is more than 20 percentage points higher than women's (76%). Because of this gap, and despite the significant increases in both female employment and dual earner couples since the second half of the 20th century (ISTAT 2019), the male breadwinner model remains a very common arrangement (Dotti Sani and Scherer 2018), especially among lower social classes (Hook 2015).

As in other countries, education acts as a strong stratification agent for female employment in Italy. However, the employment gap between lower and higher educated women appears to be particularly acute in the Italian case, as can be seen from the right-hand panel in Figure 1. The figure shows the employment rates of women aged 25 to 65 with lower secondary, upper secondary and tertiary education in the four countries being compared (OECD 2019c). While the employment rates of highly educated Italian women are not too far off from their counterparts in the other countries (77% in Italy against 78% in the US, 85% in Germany and 90% in Sweden), medium and lower educated women fare considerably worse. The employment rate of Italian women with less than secondary education is especially low: 36% compared to 53% in Germany and 59% Sweden. In this respect, Italy is rather similar to the United States, which also display large employment penalties for women with medium and low education. Education thus plays a pivotal role: not only do highly educated Italian women have higher chances of being employed, even when young children are present (Dotti Sani and Scherer 2018), but being highly educated is the key determinant for whether Italian women are in a dual earner arrangement (Hook 2015). According to economic theory, the educational gradient in employment in contexts like Italy, with limited options in terms of part-time work, childcare and family policies generally, derives from the fact that lower educated women face high costs in labor market participation, due to their lower wage potential and labor market status.

Higher educated women, instead, who have invested in human capital and have better labour market opportunities, are more insensitive to variations in family policies (Del Boca et al, 2009), resulting in a wide employment gap between higher and lower educated women.

[Figure 1 about here]

Studies have often pinned the responsibility for Italy's low female employment on the conservative nature of its welfare system, which leaves most caring responsibilities on the shoulders of its women (Esping-Andersen 1999; Saraceno 1994). Indeed: "most of the caring needs of individuals—children, infirm older and disabled persons, but also healthy adult men—are defined as best served by the caring of wives, mothers, and/or daughters" (Saraceno 1994, 60). Empirical research confirms that Italian women shoulder the majority of housework, childcare and care of the elderly (Carriero and Todesco 2016; Dotti Sani 2018; Mancini and Pasqua 2009). Because of this, it is difficult for women with families to remain in the labor market. For example, the lack of affordable, available and flexible childcare services for children under the age of three, typical of the Italian setting (Mills et al. 2008; Oliver and Mätzke 2014), can force mothers of young children to exit the labor market and take up the role of primary caregivers. Survey data suggest that this traditional division of labor is well reflected in the rather traditional attitudes towards gender roles found among Italians (Sullivan, Billari, and Altintas 2014). For example, according to recent European Value Study data (EVS 2019), about 54% of Italian women and men either agreed or strongly agreed that "what women really want is home and children", while agreement was lower in other European countries such as Austria (37%), Germany (28%), or Norway (23%). However, education also plays a central role when it comes to unpaid labor, as research shows that it significantly reduces housework time for Italian women and increases it for men (Carriero and Todesco 2016; Dotti Sani 2018). In contrast to this, but in line with international literature, highly educated mothers and fathers both spend more time on childcare than their less educated peers (Dotti Sani 2018; Mancini and Pasqua 2009), and the historical increase in childcare time has been steepest among the higher educated (Dotti Sani and Treas 2016). The fact that highly educated mothers are more likely to be employed and spend more time in childcare compared to their less educated peers runs counter to the time availability argument.

However, previous studies have pointed out that, in recent decades, employed mothers have protected their childcare time by curtailing other activities such as sleep, leisure and housework (Bianchi, 2011).

This synthetic presentation of the Italian case leads us to the following question: what happens to childcare time when women enter paid employment in a country in which caring responsibilities fall disproportionately on their shoulders (Saraceno 1994)? This question is explored through three hypotheses discussed in the following section.

Hypotheses

In line with previous studies (Altintas and Sullivan 2017; Bianchi 2011; Gauthier, Smeeding, and Furstenberg 2004), a baseline increase in childcare over the decades is anticipated for all parents. Furthemore, because paid employment limits time availability for both mothers and fathers (Chesley and Flood 2017; Coltrane 2000; Shelton and John 1996), the increase in childcare time is expected to be largest among non-employed parents. However, because the cultural value placed on childcare lies mostly with mothers, who are the addressees of a more intensive cultural model of chidrearing (England and Srivastava 2013; Hays 1996), larger effects of the passage of time on maternal childcare time generally, and a larger increase in childcare time among non-employed mothers than among non-employed fathers are expected. Hence, the first hypothesis is that, over the years of survey, *mothers in male breadwinner households will have increased their childcare time the most, followed by mothers in dual and female breadwinner households (H1a); and fathers in female breadwinner households will have increased their childcare time the most, followed by fathers in dual and male breadwinner households (H1b).*

Over the past decades, scholars have increasingly signaled the importance of focusing on inequalities that occur at the intersection of different social categories (Choo and Ferree 2010; Crenshaw 1989). Following this approach, the different increases in childcare time among parents with different work-family arrangements might arguably be further stratified by educational level (Sullivan 2013). Existing literature suggests that lower educated parents are less conscious of the benefits of parent-child interaction than highly educated ones, who in contrast have much greater incentives to spend time with their children (England and Srivastava 2013; Gimenez-Nadal and Molina 2013; Sullivan, Billari, and Altintas 2014). Therefore, growing "childcare gaps" are expected

to be found not just *between* work-family arrangements but also *within* them. Specifically, over the years of survey, the hypothesis is that *within each work-family arrangement, the increase in childcare time will be larger among higher than among lower educated mothers (H2a) and fathers (H2b).*

The last hypothesis concerns the overall parental childcare time children receive. If there are "chilcare gaps" among mothers and fathers with different work-family arrangements and different levels of education, it might be argued that children in families where parental time and education are limited (for example dual earner couples with lower education) get less childcare, potentially contributing to ongoing social inequalities (Kalil, Ryan, and Corey 2012; McLanahan 2004). Furthermore, it might even be argued that these "chilcare gaps" are getting wider, since cultural changes in the value attributed to parental childcare time have occurred more rapidly among highly educated parents (Dotti Sani and Treas 2016; Sullivan 2010). Thus, the last hypothesis is that *the higher the education and the greater the time availability of the parents, the greater the increase in childcare time (H3).*

Data, variables and methods

Data and sample

The analyses are based on four[1] rounds of data from the Italian Time Use Survey (ITUS) collected by the Italian National Institute of Statistics in 1988/89, 2002/03, 2008/2009 and 2013/14 (ISTAT 1988). In each round, data were collected on about 40,000 individuals in 20,000 households. The very large initial sample size and the availability of data for all household members represent two of the main strengths of the Italian TUS. The data were collected using a daily time use diary in which the subjects reported activities lasting ten minutes or longer for a twenty-four hour period. Subjects were asked to compile the diary on a specific day of the week, assigned to them to ensure an adequate representation of weekdays, Saturdays and Sundays. Collecting data on time use through diaries is recognized in related literature as being the most accurate method, since diaries minimize recall bias and make it difficult for subjects to alter their responses for reasons of social desirability (Marini and Shelton 1993). The Italian TUS also comprises an individual questionnaire collecting information on

respondents' socio-demographic characteristics such as age, gender, position within the household, employment status and educational level.

For the analyses, the initial sample is restricted to 12,163 mothers and fathers respectively, resulting in a total of 24,326 parents whose youngest child is aged 10 or younger and where the mother is between 20 and 50 years old.

Dependent variable

The dependent variable measures overall childcare time (in minutes), including both physical (e.g. changing diapers, feeding infants, giving baths) and interactive activities (e.g. helping children with homework, reading to and playing with children). Three dependent variables are used in the study: mothers' childcare, fathers' childcare, and total parental childcare, the latter calculated as the sum of mothers' and fathers' minutes of childcare on the diary day[2]. Summary statistics for the dependent variable by gender and year of the survey are presented in Table 1 and discussed further on in this article.

Independent variables and controls

The first independent variable measures work-family arrangements. It is a categorical variable based on the combination of the parents' employment status and has four[3] outcomes: 1) Dual earner (DE): both partners are employed; 2) Male breadwinner (MB): only the man is employed and the woman is a homemaker or unemployed; 3) Female breadwinner (FB): only the woman is employed and the male partner is unemployed; 4) No earner (NE): neither partner is in paid work. Table 2, which reports summary statistics for all the independent variables, shows the distribution of the work-family arrangement measured in each survey round. As can be seen, only a very small proportion of households falls into the female breadwinner (0.02) or no earner category (0.03). Because of the low number of observations in these categories, the corresponding estimates from the multivariate models are uncertain and not completely reliable. Therefore, they are used in the descriptive part of this article but in the multivariate analyses with multiple interactions we focus on the two predominant categories: dual-earner and male breadwinner. The second independent variable is historical time, operationalized though the survey year: 1988-89 (as reference), 2002-03, 2008-09, and 2013-14. The third independent variable measures mothers' and fathers' level of education: low (i.e. less than

secondary education, as reference category), medium (i.e. completed secondary school) and high (i.e. post-secondary education). When testing hypothesis 3 on total parental childcare time, a combined measure of parental education is used, with the aim of capturing the interrelatedness of parents' behavior (Chesley and Flood 2017). This is composed of six categories: both parents have lower education, both parents have medium education, both parents have high education, only the mother has high education, only the father has higher education, and parents have a mix of lower and medium education.

In line with previous studies (Chesley and Flood 2017; Craig, Powell, and Smyth 2014; Dotti Sani and Treas 2016; Sullivan, Billari, and Altintas 2014;), the following controls have been included in the models: women's age (20-24 years old as reference vs. 25-29, 30-34, 35-39, 40-44 and 45-49); marital status (married vs. unmarried); number of children (one vs. two, three, four or more); age of the youngest child in the household (0-2 vs. 3-5 and 6-10), and day of the week (weekday vs. weekend).

Method

All hypotheses are tested using a generalized linear model (GLM) with a log link and gamma family (Cameron and Trivedi 2013). The GLM is a generalization of OLS that allows the error term of the response variable to take different distributions. The Gamma application is often adopted in time use studies as it is appropriate for dependent variables that are skewed, positive, and with a large number of zeros (Altintas and Sullivan 2017; Andersen, Curtis, and Grabb 2006). The method relies on a log link function $\eta = \ln(\mu)$, to link a linear predictor $\eta = \boldsymbol{X\beta}$ (where $\mathbf{X}$ represents the model matrix and $\boldsymbol{\beta}$ the vector of the coefficients) with the mean of the response variable μ. The errors are assumed to follow a Gamma distribution.

The first step involves fitting models[4] separately for mothers and fathers where the dependent variable is minutes of childcare and the predictor of interest consists of an interaction between the survey year and work-family arrangements (Model 1). This model tests whether changes in childcare over time have been different among mothers and fathers with different work-family arrangements (Hypothesis 1). As a second step, a model is run with a three-way interaction between survey year, work-family arrangement and level of education, again separately for mothers and fathers (Model 2).

This tests whether there is an educational gradient *within* work-family arrangements (Hypothesis 2). Finally, to test whether children have gained more or less in terms of parental time in relation to the work-family arrangement or the educational level of their parents, a third model is run where the dependent variable is the sum of both the mother's and father's childcare time and the predictor of interest is a three-way interaction between survey year, work-family arrangement and the variable that combines the level of parental education (Model 3). When the parents are analyzed jointly, cluster-robust standard errors are used to account for the fact that the observations within couples are not independent. Because the coefficients from multiple interactions in gamma models are not straightforward to interpret, predicted values and discrete change effects are used to show the variation in minutes of childcare over time, between genders, and across work-family arrangements and educational levels.

Results

Table 1 shows the distribution of childcare time for mothers, fathers and total parental time in the four rounds. The table reports both mean and median values, as well as the proportion of parents who performed no childcare on the diary day. Mean and median minutes of childcare have increased for both parents. Mothers' average minutes of childcare rose from 79 minutes in 1988/89 to 120 in 2013/14, while fathers' average minutes went from 29 to 67 minutes. Accordingly, total parental time grew from 108 to 187 minutes: altogether, children in the most recent round received about 1 hour and 20 minutes more childcare compared to their peers in 1988/89.

The proportion of parents who spent no time at all on childcare decreased considerably over the decades. The value for mothers went from 0.19 in 1988/89 to 0.12 in 2013/14. The historical decrease for fathers is sizeable: the proportion of fathers who did not engage in childcare on the diary day in the first study round was 0.62 and dropped to 0.33 in 2013/14. As for total parental engagement, by the last round only 0.08 of parents performed no childcare on the diary day.

[Table 1 here]

Table 2 shows the increase in the proportion of DE households[5] over the four rounds, which rose from about 0.44 in 1988/89 to about 0.55 in 2013/14. In parallel, we observe a substantial decrease in

the proportion of MB households from 0.52 to 0.36. FB and NE households have also increased, but these changes are in the order of a few points.

[Table 2 here]

Moving to the results of the gamma regression models, Table 3 reports the predicted values of childcare time for mothers and fathers in different work-family arrangements by survey round. In each round, mothers in MB households spend about 20 minutes more in childcare than mothers in DE households ($p \leq 0.001$). While this result suggests that time availability does predict childcare (Coltrane 2000; Shelton and John 1996; Chesley and Flood 2017), the difference in the estimates is smaller than what could be expected, under the assumption that non-employed mothers have much more available time than employed ones. Mothers in NE households also appear to spend more time on childcare, although the estimates are uncertain due to fewer observations for these groups. In contrast, we observe that mothers in FB households spend less time on childcare compared to mothers in DE ones, with the largest differences being −19 minutes in 2002/03 and −20 in 2013/14 ($p \leq 0.05$). A similar pattern emerges among fathers: in each round, those in MB situations spend less time on childcare, while those in FB households more. In absolute terms, the latter are spending the most time on childcare in each round, with a maximum of 94 minutes in 2008/09. However, the differences between MB and DE are not statistically significant within each round.

These results suggest some level of coordination between parents: stay-at-home mothers "release" their partners from childcare, while female breadwinners offloaded part of it onto their unemployed partners. Dual earner mothers fall somewhere in between: pressured by the time demands of their occupation, they cannot match the childcare time of the stay-at-home mothers. However, they cannot fully offload childcare onto their partners as female breadwinners do. Overall, the results suggest that the allocation of childcare time is not symmetric with respect to gender and employment status, much like in the case of housework (Dotti Sani 2018; Shelton and John 1996; Sullivan 2013).

[Table 3 here]

The table also reports the estimated difference between the first and last rounds of the survey within each work-family arrangement by gender. These estimates reveal that the first hypothesis is only partially confirmed. Mothers in both MB and DE households have increased their childcare time

roughly to the same extent (40 and 36 extra minutes since 1988/89, $p \leq 0.001$). However, as predicted, mothers in FB households have increased their childcare less compared to these groups (21 extra minutes, $p \leq 0.05$), likely due to their own time limits and the possibility of offloading childcare onto their unemployed partner. We also observe an increase in childcare time among the NE mothers akin to the MB and DE households (27 extra minutes, $p \leq 0.05$). Hypothesis H1b for fathers is not confirmed: increases in childcare time have been rather consistent among fathers in the DE, MB and NE groups (+30, $p \leq 0.001$, +28, $p \leq 0.001$, and +27, $p \leq 0.001$ minutes respectively). In contrast, fathers in FB households have increased their childcare time the least (+17 minutes, $p \leq 0.10$). Thus, despite the available time, fathers in this group did not react much to the changing cultural norms on childrearing.

Were these historical changes the same for mothers and fathers with different levels of education, or is there a "childcare premium" somewhere at the intersection of parental employment status and education, as predicted by hypotheses H2a and H2b? We answer this question by moving to Figure 2, which plots the predicted minutes of childcare in the four survey rounds for mothers and fathers with lower, medium and high education levels respectively and in both DE and MB situations. The asterisks indicate whether, in each round, the difference from the reference level (i.e. lower education) is statistically significant.

[Figure 2 here]

Starting with mothers in DE households, the figure shows a "childcare gap" separating lower educated from medium and highly educated mothers, which is statistically significant in the first three rounds of the survey. The lines suggest that the gap somewhat increased in the 2000s, with higher educated employed mothers increasing their childcare time more than medium and lower educated ones. However, lower educated employed mothers appear to have caught up, and by 2013/14 the gap is not statistically significant. In summary, there is an educational gradient in childcare time among mothers in DE arrangements, but it is narrowing over time. For mothers in MB households, the story is different. Here, we observe an increasing gap in childcare, with higher educated mothers performing about half an hour more childcare than lower educated mothers. By contrast, the statistically significant gap between lower and medium educated mothers has not changed much over

time. These results indicate that children benefit – at least in terms of childcare time – from having a stay-at-home mother only if she has above secondary or, better yet, tertiary education. In fact, by 2013/14, a stay-at-home highly educated mother devotes over thirty minutes more childcare than a comparable mother in a dual earner household (143 vs. 110 minutes). Among medium educated mothers the difference is somewhat smaller but still substantial (124 vs. 100 minutes). By contrast, lower educated mothers in MB households do not spend substantially more time on childcare compared to their employed counterparts (108 vs. 99 minutes). Thus, hypothesis H2a is only partially confirmed: highly educated mothers have increased their childcare time more than lower educated ones, but only when they have the available time, i.e. in the MB household.

Moving on to fathers, the results for DE households indicate that the educational gradient present in 1988/89 has gradually disappeared: by the last round of the survey, lower, medium and highly educated fathers spend comparable amounts of time on childcare (57, 64 and 64 minutes respectively). Thus, contrary to hypothesis H2b, we find a convergence in childcare time among fathers in DE households. In the MB category however, we see an increasing childcare gap between fathers of different educational levels, supporting H2b: in 1988/89, the difference between fathers with lower, medium and high educational levels was rather small, but by 2013/14 highly educated fathers are spending about 55 minutes on childcare per day, medium educated ones 61, and lower educated ones 40. The figure also reveals that lower educated fathers in MB households have increased their childcare time the least over the past decades, likely because they could completely offload this responsibility onto their non-employed partners. By comparison, the increase in childcare for their counterparts in DE arrangements has been considerable, suggesting these fathers spend more time on childcare to compensate for the time their employed partners cannot put in. It could also be argued that, across levels of education, fathers in DE households might hold somewhat more gender egalitarian and less traditional attitudes towards gender roles. Furthermore, they might also have more progressive attitudes toward parenthood compared to equally educated fathers in MB situations. Therefore, they could be pushed to spend more time with their children not only out of compensation, but also because it is what a "modern" father would do.

Overall, these findings suggest there are indeed "complex inequalities" (Crenshaw 1989; Choo and Ferree 2010; McCall 2005) in the amount of childcare children get from their mothers and fathers in Italy. Do these parent-specific differences translate into differences in the total amount of childcare children get from their parents? To answer this question, we move to Figure 3, which shows the predicted values of total childcare time (mothers' plus fathers' minutes) over time for DE and MB households. Each panel reports predicted minutes for a different combination of parental education.

[Figure 3 here]

Across the years of the survey and among the six educational combinations, the differences in total childcare time between the DE and the MB households are mostly non-significant. In households where both parents are lower educated (panel a), or where there is a combination of lower and medium education (panel f), we find sporadic evidence of a "childcare gap" in favor of the MB household. We find no such evidence in households where both partners are medium educated (panel b) or where only the mother is highly educated (panel d), where the slopes for the two work-family arrangements increase at a similar pace. In all four cases (a, f, b and d), the gap disappears by 2013/14. In households where only the father holds a tertiary degree, we find a large gap in favor of the MB household, but only in the first wave of the survey, suggesting a strong degree of task specialization. However, this gap also closes by the last round. In contrast, panel c shows a growing gap in childcare time between the DE and the MB models in households where both parents have a tertiary degree. Specifically, children living with highly educated parents and a stay-at-home mom have a 60 minute "premium" in total childcare time. This result, that brings support to the third hypothesis, likely occurs as a consequence of the educational gradient that emerged in Figure 2 among both mothers and fathers in the MB situation: when both parents are highly educated, their individual efforts to increase childcare time are summed. This individual effort is especially evident among highly educated stay-at-home mothers and contributes to further increase the total amount of time children get from their parents. However, this outcome is unique to MB households where both parents are highly educated: in all other combinations of parental education, children in MB and DE households receive approximately the same childcare time, all other things being equal.

Conclusions

This article exploited four rounds of the Italian Time Use Survey (1988-89/2013-14) to investigate the changing relationship between childcare time, work-family arrangements and parental education. In particular, the study asked whether, in a context of increasing childcare time (Dotti Sani and Treas 2016; Sullivan, Billari, and Altintas 2014) and growing female employment (ISTAT 2019; OECD 2019a), some children have gained more than others in terms of childcare time.

The study makes two main contributions to the literature. First, it provides an unprecedented analysis of the evolution of childcare time and work-family arrangements in Italy, a country for which little empirical research exists in the international literature (Dotti Sani 2018; Mancini and Pasqua 2009). Italy's specific institutional and cultural traits (EIGE 2015; Esping-Andersen 1999; EVS 2019; Saraceno 1994; Sullivan, Billari, and Altintas 2014), in combination with the transformations which have occurred at the societal level over the past decades (OECD 2019a), make the country an excellent case to broaden scholarly understanding of historical changes in paid and unpaid labor within a gendered social system. Second, by focusing on work-family arrangements and joint parental childcare time, the study goes beyond prior research which looked at maternal and paternal care time separately (Chesley and Flood 2017; Hook and Wolfe 2012; Sayer, Gauthier, and Furstenberg 2004). This allows us to increase our understanding of the interrelatedness of parental behavior and obtain greater insights regarding gender and social inequalities occurring not just at the individual but also at the household/family level (Kalil and Mayer 2016; McLanahan 2004).

The results suggest that, within a generalized trend of increasing childcare time, differences emerge at the intersection of gender, work-family arrangement, and educational level. First, mothers still perform much more childcare than fathers. Even among dual earners where both parents are higher educated, who should arguably share similar time constraints and child-rearing principals, mothers sustain the role of primary caregiver, suggesting that the traditional division of labor typical in Italian society is not faltering (Esping-Andersen 2009; Saraceno 1994). Second, the study confirms an educational gradient in childcare time among both mothers and fathers (Altintas and Sullivan 2017; Dotti Sani and Treas 2016; Gauthier, Smeeding, and Furstenberg 2004; Sayer, Bianchi, and Robinson 2004) which translates into a greater amount of total childcare time for children who have at least one

parent with higher education. However, this gradient was found to vary depending on work-family arrangements. Specifically, while the educational gradient among dual earner mothers and fathers has closed over the years of the survey, a growing educational gap is found among the stay-at-home mothers. This occurs because highly educated homemakers have increased their childcare time to a much greater extent than lower educated ones over the years of the survey, resulting in a childcare gap giving the children of stay-at-home, highly educated mothers an extra hour of daily childcare. Highly educated male breadwinner fathers also increased their childcare time more than lower educated ones, resulting in a large childcare premium for children whose parents are both highly educated and live in a male breadwinner household. Therefore, the answer to the question of whether it is "good" to have a stay-at-home mom is yes (at least in terms of childcare time), but only when both parents are highly educated. In all other combinations of parental education, children in male breadwinner households do not systematically receive more total parental childcare time than those in a dual earner arrangement.

Three limitations should be acknowledged. First, this article does not explicitly address the "quality vs. quantity" debate concerning childcare time (Cano, Perales, and Baxter 2019; Fiorini and Keane 2014; Kalil and Mayer 2016; Milkie, Nomaguchi, and Denny 2015), while it could be argued that differences in the type of care provided by families with different work-family arrangements do exist, and may have deepened over time. Although the general increase in childcare time across households can be viewed as a positive societal development (Kalil and Mayer 2016), further research is needed to go beyond the quantitative side and explore issues of quality. A second limitation is intrinsic to the dataset and lies in the fact that subjects compile the time diary only on one specific day of the week, and thus do not allow a detailed account of time use for the same individuals over different types of days. Third, due to small sample sizes, childcare among female breadwinner and no earner households was not fully investigated.

To conclude, the results suggest that growing female employment has not negatively affected childcare time in the Italian context, an important finding considering that parental childcare matters considerably for the cognitive and behavioral development of their offspring (Bernal and Keane 2011; Lugo-Gil and Tamis-LeMonda 2008). However, the childcare premium that emerges for children of highly educated non-employed Italian mothers is a result that calls for some additional considerations.

Scholars may argue that children benefit from this situation. However, a different yet equally important question − beyond the scope of this research but which could be addressed in future studies − concerns the welfare of Italian mothers: is it good for a highly educated mother to be a full-time homemaker? Beyond immediate considerations such as satisfaction with one's work-family arrangement and whether homemaking is a voluntary choice, research could investigate its medium and long-term implications more broadly. For example, research shows that women face greater economic uncertainty in old age than men (Folbre, Shaw, and Stark 2005; Gornick, Sierminska, and Smeeding 2009) and some evidence exists that employed mothers have greater life satisfaction compared to homemakers (Berger 2013; Booth and Van Ours 2008). Since parents and children belong to the same system, the advantages derived from spending more time with their children should at the very least compensate mothers for the (eventual) losses they face. This is particularly relevant in the Italian case, where homemaking mothers represent a significant proportion of the population. While it might not be possible to measure the benefits and detriments experienced by the various parts in action, acknowledging the fact that parents might have something to lose in the race towards increasing childcare is a critical step to take (Milkie, Nomaguchi, and Denny 2015).

Notes

[1] The four surveys share the same sampling and methodological setup. Minor changes over the years have concerned the introduction of new activities (e.g. internet use) but the childcare categories have remained the same.

[2] Since mothers and fathers might be engaging in childcare simultaneously, total parental childcare time might be somewhat over-estimated. However, this extra time would capture the fact that the "time investment" is more enriching and rewarding for children because both parents are engaging with them, thus not altering the results from a substantial point of view.

[3] The one-and-a-half-earner model is not analyzed because data from 1988/89 do not distinguish between part-time and full-time work: a minor limitation given that this arrangement was not very common in Italy (Hook, 2015), in particular in the first round of the survey.

[4] Full models are reported in the Online Appendix.

[5] Summary statistics for all the independent variables are reported in the Online Appendix.

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Table 1. Summary statistics: minutes of childcare by gender and survey year. Own calculation based on ITUS 1988/89-2013/14.

	Mean	Median	Min	Max	Pr.=0	N
Mothers						
1988/89	79	60	0	810	0.19	3598
2002/03	110	90	0	830	0.13	3560
2008/09	116	90	0	680	0.13	2579
2013/14	120	100	0	770	0.12	2426
Fathers						
1988/89	29	0	0	480	0.62	3598
2002/03	51	20	0	580	0.42	3560
2008/09	56	30	0	560	0.40	2579
2013/14	67	40	0	730	0.33	2426
Parents total						
1988/89	108	75	0	815	0.16	7196
2002/03	161	130	0	1220	0.09	7120
2008/09	171	140	0	930	0.09	5158
2013/14	187	150	0	1030	0.08	4852

Table 2. Summary statistics: proportions of work-family arrangement by survey round. Own calculation based on ITUS 1988/89-2013/14.

	1988/89	2002/03	2008/09	2013/14	Total
Work-family arrangement					
Dual earner	0.44	0.53	0.56	0.55	0.51
Male breadwinner	0.52	0.44	0.40	0.36	0.44
Female breadwinner	0.02	0.01	0.02	0.03	0.02
No earner	0.03	0.02	0.02	0.05	0.03
N	7196	7120	5158	4852	24326

Table 3. Predicted minutes of childcare by round: absolute values and discrete change effects

	DE	MB	FB	NE	Δ ($_{MB-DE}$)	P	Δ ($_{FB-DE}$)	P	Δ ($_{NE-DE}$)	P
Mothers										
1988/89	62	80	58	83	18***	0.000	-4	0.557	20**	0.010
2002/03	88	105	68	119	17***	0.000	-19*	0.033	31*	0.015
2008/09	91	113	80	119	22***	0.000	-11	0.363	28†	0.068
2013/14	99	120	79	110	21***	0.000	-20*	0.019	11	0.231
Δ($_{2013/14-1988/89}$)	36***	40***	21*	27*						
P	0.000	0.000	0.049	0.021						
Fathers										
1988/89	30	21	52	35	-8***	0.000	23†	0.051	5	0.385
2002/03	45	42	61	37	-4	0.155	16	0.274	-8	0.282
2008/09	49	42	94	71	-7*	0.019	45†	0.063	22	0.175
2013/14	59	49	69	62	-10*	0.014	10	0.426	3	0.768
Δ($_{2013/14-1988/89}$)	30***	28 ***	17	27**						
P	0.000	0.000	0.320	0.010						

Note: Predicted minutes of childcare and discrete change effects are calculated from Models 1a and 1b in the Online Appendix. Predictions are mean adjusted for all covariates.
P-values are reported for the discrete change effects: † $p \leq 0.10$, * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$.

Figure 1 Female employment rates from 1970 to 2018 (left) and female employment rates by level of education in 2018 (right). Age group: 25-64. Source: OECD (2019a; 2019c)

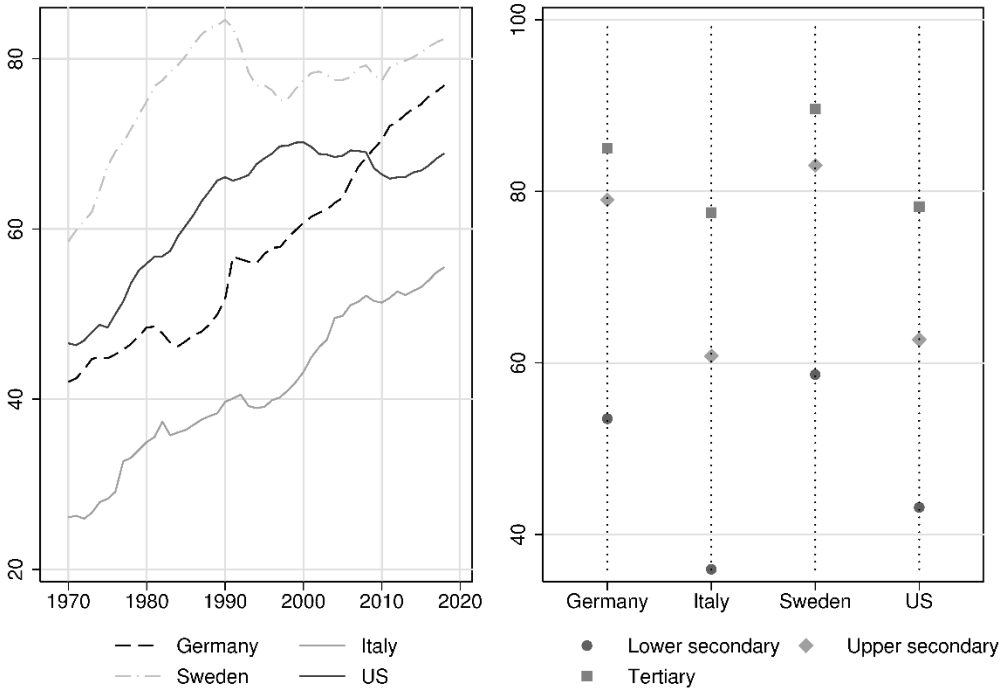
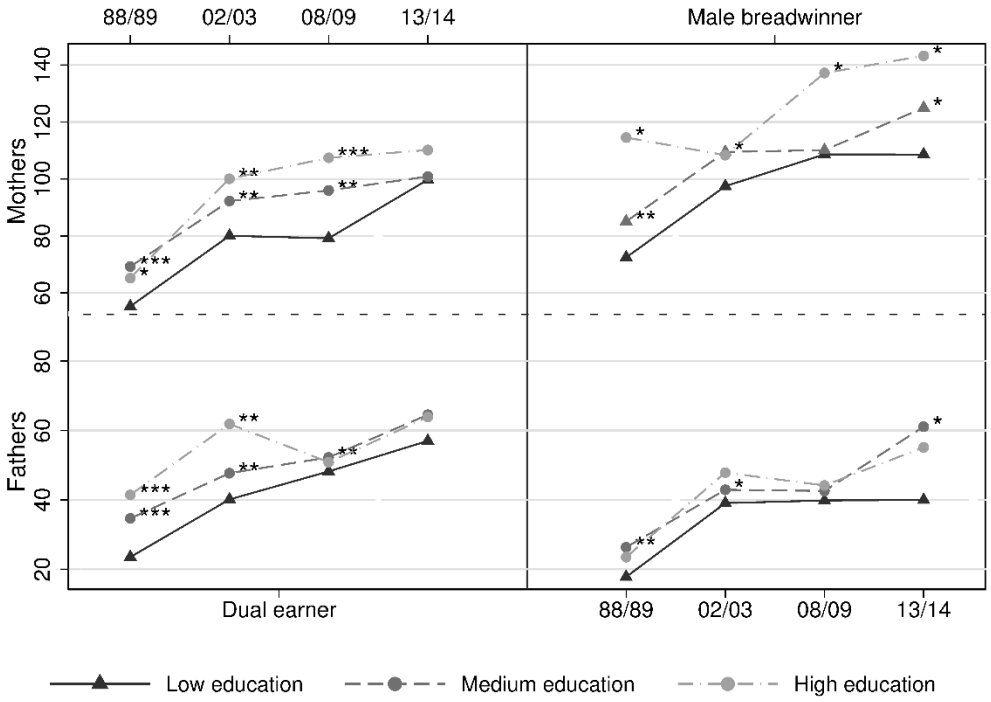
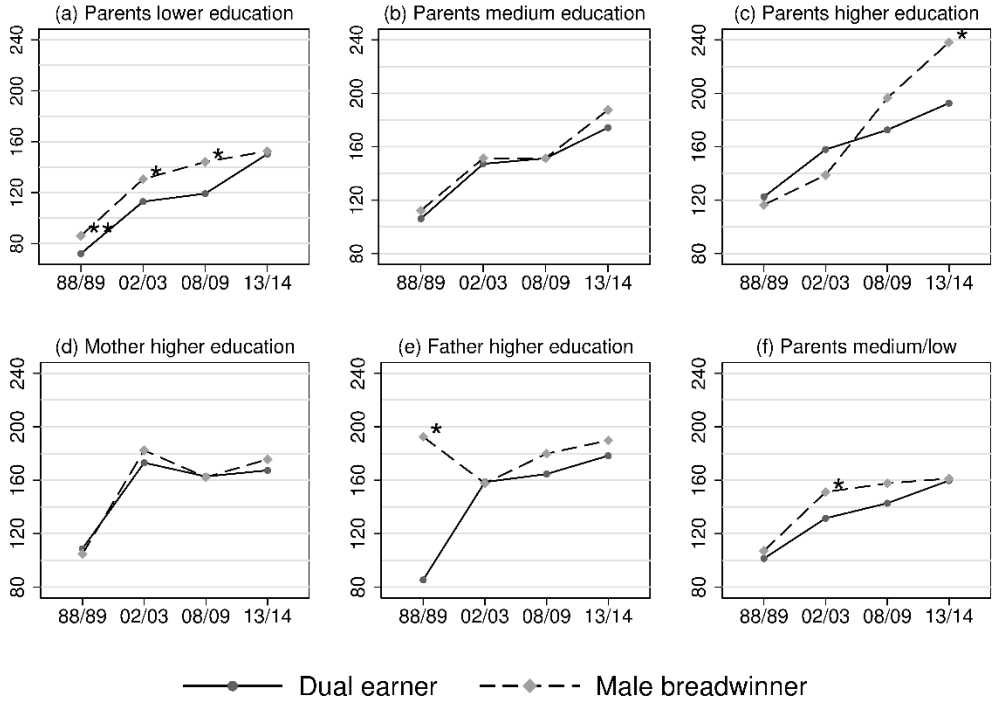


Figure 2 Predicted minutes of childcare by survey year, gender and work-family arrangement.



Note: predicted values are calculated from Models 2a and 2b in the Online Appendix. Predictions are mean adjusted for all covariates. Asterisks indicate whether the discrete change from the reference group (lower educated) is statistically significant: † p≤0.10, * p≤0.05, ** p≤0.01, *** p≤0.001.

Figure 3. Predicted minutes of childcare by survey year, parents' combined level of education and work-family arrangement.



Note: predicted values are calculated from Model 3 in the Online Appendix. Predictions are mean adjusted for all covariates. Asterisks indicate whether the discrete change from the dual earner to the male breadwinner arrangement is statistically significant: † p≤0.10, * p≤0.05, ** p≤0.01, *** p≤0.001.