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Entry into Parenthood and Gender Role Attitudes

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Abstract

The attitudes of people about how paid and unpaid work should be divided between the members of a couple (gender role attitudes) determine the economic and social outcomes of women to a great extent. It is thus important to understand how the gender role attitudes of people are formed and evolve. In this paper, we concentrate on one of the most path-breaking events in life: becoming a parent. Using rich longitudinal data from the UK and fixed-effects regressions, we first show that, in general, entry into parenthood significantly shifts the gender role attitudes of women toward more traditional positions, but leaves men unaffected. We then show that prenatal attitudes are crucial in driving the change in attitudes of new parents. We find a substantial traditionalization of gender role attitudes for new parents who had more progressive prenatal attitudes, with no distinction between the sexes. Conversely, no significant attitude change is observed for parents with more conservative prenatal attitudes after entering into parenthood. Novel moderating analyses also show that the traditionalization of attitudes for progressive individuals, after they become parents, becomes substantially stronger as the experience of (and exposure to) traditional postnatal arrangements in the division of paid and unpaid work increases.

Keywords: Gender role attitudes, entry into parenthood, gender identity, cognitive dissonance, gendered institutions and gender stereotypes, Understanding Society data set.

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1. Introduction

Cultural norms are gradually embracing a more egalitarian view of society (Seguino, 2007; Knight and Brinton, 2017). However, most Western countries are still characterized by a traditional gender division of paid and unpaid care work (Craig and Mullan, 2011). Even though there are huge differences among different types of women (e.g., depending on their educational background; Du et al., 2020; Erten and Keskin, 2018) and across countries (e.g., depending on long-term historical determinants and institutional settings; Anxo et al., 2011; Giuliano, 2018), women still represent the principal providers of unpaid care work (García-Mainar et al., 2011; Kan et al., 2011). Women devote disproportionately more time than men to unpaid care work, even when they work long hours and contribute substantially to the household income (Grunow et al., 2012). In high-income countries, they spend 4.3 hours per day on unpaid care work, about 1.9 times more than men (2.3 hours per day; ILO, 2018). Female paid work participation rates are persistently lower than those of men, and women are by far more likely to be employed on a part-time basis (Fernández, 2013; Manning and Petrongolo, 2009). The labor force participation rate in OECD countries in 2018 was 80.6% for men, compared to only 64.5% for women, and as much as 25.4% of the women who were employed in the OECD area in 2018 worked part-time, compared to only 9.4% of men (OECD, 2020).

Gender role attitudes play a crucial role in shaping the labor market outcomes of women as well as the gender division of paid and unpaid work (Giuliano, 2020; Fuwa, 2004). For instance, it has been shown in recent research that conservative gender role attitudes negatively influence the participation of women on the labor market and gender pay gaps (Fortin, 2015, 2005). The unequal division of paid and unpaid work between genders makes women economically (and socially) weaker than men. Hence, the risk of poverty is higher for women (Bárcena-Martín and Moro-Egido, 2013; Corsi et al., 2016; Gornick, 2004). Part-time work can be associated with pay penalties and can lead to skill and career stagnation (Devicienti et al., 2020; Paul, 2016). As unpaid care work falls mostly onto their shoulders, women tend to account for family commitments in their job choices more than men do, thereby limiting the possibility of wage increases (Evertsson, 2012; Manning and Swaffield, 2008). Traditional views are also likely to corroborate discriminatory behaviors toward women (especially mothers) who choose to work, concerning pay, career prospects, or inclusion in training activities (Correll et al., 2007; Gangl and Ziefle, 2009; Wozny and Schneider, 2014). They also create stereotypes that influence the educational choices of boys and girls (Ceci et al., 2009; Carlana, 2019; Cvencek et al., 2011) in a way that decreases the future earnings of women (Arcidiacono, 2004; Jain et al., 2018; Joensen and Nielsen, 2009). More importantly, traditional views shape institutions in a gendered way (Lewis et al., 2008; Kremer, 2007; Pearse

and Connell, 2016), triggering a vicious circle that feeds the economic inequality that exists between men and women (Bettio and Plantenga, 2004; Hofäcker et al., 2013; Mandel and Semyonov, 2005). In more traditional contexts, there is a lack of public childcare facilities, paternity leaves are uncommon, and flexible working time arrangements, such as part-time work, are directed more at women than men, thus heavily conditioning the economic outcomes of women (Geist, 2005; Grunow et al., 2018; Ray et al., 2010).

In short, the view of society on the role of women contributes to setting the limits of women’s possibilities in terms of employment, earnings, and career prospects. Therefore, it is crucial to understand how the attitudes of men and women toward the gender division of labor are formed and evolve.

There is a rich literature that suggests that life course experiences, such as educational attainments, change in marital status, and entry into parenthood, can be important drivers in the formation and change of individuals’ attitudes (e.g., Baxter et al., 2015; Vespa, 2009). This paper examines the impact of becoming a parent, arguably one of the most path-breaking events in life, on gender role attitudes, focusing on whether mothers and fathers differ in their change in attitudes. Understanding how and why people’s attitudes change after becoming parents is of crucial relevance. The event of parenthood forces new parents to reshuffle the sharing of unpaid work between the couple, and how they combine this work with their paid jobs. Traditional arrangements in the division of paid and unpaid work often prevail following childbirth, so that many women find themselves taking care of their child almost exclusively (Baxter et al., 2008; Frenette, 2011; Kühhirt, 2012). This often happens as an external constraint: gendered institutions and traditional gender role views can lead to traditional settings after childbirth (Campaña et al., 2018; Cutillo and Centra, 2017). Understanding how the experience of and the exposure to traditional postnatal arrangements can modify the gender role attitudes of men and women is of great importance to draw reliable policy implications that can guarantee more gender equality. This is especially relevant because women’s (and men’s) adherence to traditional gender role views substantially contributes to the (re)production of patterns of gender inequality over their life course (Nitsche and Grunow, 2016; Christie-Mizell et al., 2007; van Gameren, 2013). Moreover, becoming a parent is a breakthrough event, where social pressure pertaining to gendered roles can become strong (Fortin, 2015). Gendered expectations might thus significantly change the attitudes of new parents, particularly those of women, who experience greater social pressures to adhere to existing gender norms (Fortin, 2005).

In order to explore these issues, we use an individual- and household-level longitudinal survey from the UK (Understanding Society; “US” for short). The US data set provides rich information on the gender role attitudes of individuals, on their fertility history, and on the

experience of traditional arrangements in the allocation of paid and unpaid work (e.g., the use of external childcare and employment history). The use of longitudinal data is crucial to provide evidence about change in attitudes resulting from entry into parenthood. In practice, our fixed-effects estimates confront how the gender role attitudes of new parents change after the birth of their first child, compared to those individuals who did not become parents in the observation window, while also controlling for an array of time-varying factors, such as marital status and education.

In the empirical analysis, we first provide evidence on the overall impact of entry into parenthood on the gender role attitudes of men and women. Our results show a high discrepancy between the two genders, with women becoming more conservative in attitudes after experiencing motherhood, while men, on average, do not display any changes. We then explore how the experience of traditional postnatal arrangements in allocating paid and unpaid work between genders moderates this impact. We find that the experience of traditional postnatal arrangements, as captured by the non-use of external childcare and women’s transitions into full-time unpaid care work, strongly leads to the traditionalization of the gender role attitudes of men and women, but only when they had prenatal progressive attitudes. On the contrary, when the prenatal attitudes are conservative, neither men nor women experience any significant change in attitudes after becoming parents, not even when the traditional modes of dividing paid and unpaid care work in the household prevail. We also provide robustness evidence that the same picture emerges when men and women are exposed to more traditional local contexts, which we identify with various proxies defined at the local-district level (e.g., local gender role attitudes, the use of external childcare in the local district, and the local employment rates of mothers). The exposure to more traditional local contexts substantially increases the tendency of women (and, to a lesser extent, of men) of becoming more traditional in attitudes after the entry into parenthood. However, this pattern again only emerges if the individuals had progressive attitudes before childbirth.

What could be the reasons for these results? There are several factors at play, which we summarize in two complementary channels, which corroborate each other: cognitive dissonance and gendered expectations. Cognitive dissonance is a psychological status that emerges when a person’s beliefs contradict his/her behaviors (Festinger, 1957). People perceive this as a situation of psychological discomfort, and solve it either by adapting their beliefs to their behaviors or, *vice versa*, by adapting their behaviors to their beliefs. Although this procedure of conflict resolution is, in principle, bidirectional, when behaviors are difficult to change (e.g., because of external constraints), individuals typically end up adapting their beliefs to behaviors and not *vice versa*. In practice, when traditional arrangements after childbirth emerge as an external constraint, the gender role attitudes of men and women

might change toward positions that are more traditional in order to become more coherent with the postnatal arrangements. Expectations are themselves not neutral to gender. The event of giving birth makes a woman experience a marked new expectation of herself as a mother, an expectation that was not at play before giving birth. Gender roles in raising a child are undoubtedly different, and they reflect a social norm about what is appropriate for women to do and what is appropriate for men to do once they become parents (Akerlof and Kranton, 2000). Becoming a mother makes a woman’s identity switch to that of a “woman with children identity”, which differs from a “woman with no children identity”. Traditionalization of attitudes after childbirth may emerge to conform to the existing social norm, and this could imply a more significant shift for those who were more distant from such a norm before becoming a parent. In other words, the excess change that takes place in more progressive women could be translated into a reversion to the mean process.

This paper contributes to the current literature in at least two ways. First, we provide evidence on *changes* in gender role attitudes after becoming a parent. Much of the previous literature (e.g., Bolzendahl and Myers, 2004; Cunningham et al., 2005; Corrigan and Konrad, 2007) could only explore how attitudes differed between people with children and people without children, due to the use of cross-sectional data and/or methods, and no evidence was provided about change in attitudes after becoming a parent. A panel data set, like the one we use in this paper, allows unobserved individual fixed heterogeneity to be removed, thereby abstracting from confounding factors related to an individual’s background (e.g., previous personal experiences), and concentrating only on within-individual changes during the transition to parenthood. Second, to the best of our knowledge, this paper is the first to explore the moderating role of (i) prenatal attitudes and (ii) the experience of and (iii) the exposure to traditional postnatal arrangements in the division of paid and unpaid care work between genders. This analysis delves into the mechanisms behind the change in people’s attitudes and allows a better understanding of how existing social norms and institutions shape the formation and change in attitudes during the transition to parenthood.

The rest of the paper is structured as follows. After a brief review of previous empirical studies in the field, we discuss the potential mechanisms involved in the process of change in attitudes after becoming a parent. We then present the empirical model, the data set, and the UK context. Finally, we show and discuss our results and draw conclusions.

2. Previous empirical studies

Since gender role attitudes of people contribute to shaping the economic and social prospects of men and women, as well as several institutional settings, scholars from a variety of disciplines, including sociology, economics, and psychology, have concentrated their efforts on

assessing how these attitudes differ among individuals, and how such attitudes form and evolve (e.g., Ciabattari, 2001; Cotter et al., 2011; Danigelis et al., 2007).

Several empirical studies have shown that such socio-demographic characteristics as gender, age, educational level, religion, residential location, and marital and family status, are related to the gender role attitudes of individuals. Women and younger individuals typically have progressive gender role views (Berridge et al., 2009; Sjöberg, 2004; Valentova, 2013), as do more educated individuals (Cunningham, 2008; Du et al., 2020; Erten and Keskin, 2018). Religion is associated with traditional views (Giuliano, 2018; Seguino, 2011), and the same pattern has been found for married people (Bolzendahl and Myers, 2004; Cunningham et al., 2005; Moors, 2003), individuals with children (Corrigall and Konrad, 2007; Fan and Marini, 2000; Moors, 2003), and people living in rural areas (Vidal and Lersch, 2019).

Exploring whether and how life-course transitions associated with these socio-demographic characteristics (e.g., growing older, getting married, and becoming a parent) change the gender role attitudes of individuals is a crucial task for researchers because it helps to understand the process of attitude formation and change (Baxter et al., 2015; Berrington et al., 2008; Vespa, 2009).

Although becoming a parent is arguably one of the most critical events in life, only a few studies have investigated how gender role attitudes change as a result of the transition to parenthood. Vespa (2009) employed the National Longitudinal Survey of Youth (1979) conducted in the US, together with fixed-effects regressions, and found that entry into parenthood has a less egalitarian effect on married parents of both genders. The effect on unmarried parents is instead more mixed. They report a tendency toward more egalitarian gender role attitudes following the entry into parenthood among unmarried women, but no significant change among unmarried men. Baxter et al. (2015) instead used the Household, Income, and Labour Dynamics in Australia survey and fixed-effects estimates, and provided evidence that both men and women become significantly more traditional in attitudes after they become parents. They also report no significant gender differences in the impact. Finally, Kuziemko et al. (2018) provided empirical evidence, based on fixed-effects regressions, on women in the UK and US. By resorting to the British Household Panel Survey (for the UK) and several longitudinal surveys for the US, they found that, following motherhood, women become significantly less likely to agree with the claim that work does not inhibit their ability to be good wives and mothers. Interestingly, Kuziemko et al. (2018) provided evidence that new mothers do not anticipate the adverse effects of motherhood on their employment perspectives, but instead find themselves trapped in a situation of unwanted changes in their work life. The authors also reported that new mothers stated that motherhood is more complicated than they expected. These additional results suggest that shifts in

women's working patterns after becoming mothers may often arise from external constraints rather than deliberate choices.

The existing studies on the change in attitudes following the entry into parenthood thus point to substantial revisions of attitudes toward more traditional positions after becoming parents (with the exception of unmarried parents reported by Vespa, 2009). Therefore, this evidence suggests that the transition to parenthood is a critical moment of attitude formation and evolution that deserves attention.

Several other studies have instead explored how parenthood is related to gender role attitudes using cross-sectional data and/or methods, thereby not observing within-individual changes in attitudes following the entry into parenthood. With very few exceptions, these studies indicate that traditional gender role views are positively related to parenthood.

Among these studies, Corrigan and Konrad (2007) estimated ordinary least squares regressions on US high-school leavers followed for over 14 years, and found that having children is negatively associated with later gender egalitarianism for both men and women. Using log-linear path models applied to German data on young adult women, Moors (2003) found that childbearing is related to subsequent traditional family values. Similarly, Fan and Marini (2000), using a nationally representative longitudinal sample of US youth, found that parenthood is negatively associated with later egalitarian attitudes for men and women. Katz-Wise et al. (2010), on the basis of a sample of first-time and experienced parents in the US and latent growth curve models, reported that first-time parents were significantly associated with more traditional views after the birth of their first child, and that this association was more marked for women. On the contrary, Cunningham et al. (2005) estimated ordinary least squares regressions, and provided no evidence that childbearing influences gender role attitudes during early adulthood in the US. Bolzendahl and Myers (2004) applied cross-sectional regressions to data from the US and reported instead that traditional gender role attitudes are negatively related to the number of children in the household. Finally, Schober and Scott (2012) used cross-sectional structural equation models and the British Household Panel Survey to study how parenthood is related to gender role attitudes. They found that traditional attitudes among men and women are more likely in couples in which the women's postnatal labor market participation and use of formal childcare contrast with prenatal attitudes, thus providing preliminary evidence on the relevance of the cognitive dissonance mechanism.

It is important to note that, even when inserting dynamic components that should account for differences in prenatal gender role attitudes, these studies compared different individuals, and this does not allow how gender role attitudes change as a result of the transition to parenthood to be assessed. Comparing different individuals does not control for any con-

founding unobserved fixed heterogeneity among them. Certain individuals might be more likely than others to have children. If their unobserved fixed traits are also related to gender role attitudes, the estimated coefficient that results from cross-sectional regressions does not reflect the actual impact of entry into parenthood on gender role attitudes.¹

Our paper contributes to the existing literature in two main ways. First, by using panel data and fixed-effects regressions, we enrich the limited existing evidence on how entry into parenthood changes the gender role attitudes of individuals. Second, we explore how the change in attitudes accompanying the transition to parenthood are shaped in relation to (i) the attitudes of individuals before childbirth and (ii) the experience of and (iii) the exposure to traditional arrangements following childbirth. In so doing, we provide novel evidence on the mechanisms behind the change in attitudes as a result of becoming a parent and the role that social norms and gendered institutions may play in the formation of attitudes and their evolution.

3. How do gender role attitudes change across the transition to parenthood?

There are at least two complementary mechanisms that can be implicated in the process of changes in attitudes across the transition to parenthood: cognitive dissonance and changes in the gender identity.

Cognitive dissonance is a concept that was originally developed by Festinger (1957). When a person's beliefs are in contrast with his/her behavior, cognitive dissonance emerges. It creates and perpetuates psychological discomfort in the individual, which can lead to anxiety, anger, or frustration. Cognitive dissonance can be solved by aligning beliefs to behavior or *vice versa*. When the behavior is difficult to change (e.g., because of external constraints), individuals tend to choose the former option, that is, to adapt beliefs to behavior. Cognitive dissonance might emerge following entry into parenthood when the individual's prenatal gender role attitudes are in contrast with his/her postnatal behavior in the gender division between paid and unpaid care work. If traditional arrangements in the division of paid work and unpaid care work between genders occur as an external constraint, individuals might shift toward more traditional attitudes in order to conform their beliefs to their (constrained) behavior.

Traditional arrangements often emerge as a result of external constraints. The channel by which they emerge is a complex interplay between social norms, institutional settings,

¹It should be noted that there is a distinct, and yet related, strand of literature that has concentrated on the impact of the sex of a child on gender role attitudes (or other variables such as voting behavior). See, for example, Dahl et al. (2012); Perales et al. (2018); Oswald and Powdthavee (2010); Shafer and Malhotra (2011); Washington (2008).

and choices. Social norms are likely to shape institutions in a gendered way (Lewis et al., 2008; Kremer, 2007; Pearse and Connell, 2016), and gendered institutions force individuals to take on traditional modes of sharing work dedicated to the labor market and the care responsibilities in a couple. Many couples are forced to organize paid and unpaid care work in a traditional fashion, after becoming parents, because there are not sufficient public childcare facilities, and private nurseries are too costly (Bettio and Plantenga, 2004; Hofäcker et al., 2013; Lewis et al., 2008). If a woman is the lower earner in a couple, it may be economically more convenient if she exits the labor market or reduces her working time to look after their child (Baker et al., 2008; Brilli et al., 2016; Del Boca et al., 2009). At the same time, men often find themselves unable (or unwilling) to help women look after the child. They may encounter their employer's resistance to switching from a full-time to a part-time contract (Devicienti et al., 2019, 2020). Part-time work is also often associated with a stigma, especially for men, which possibly hinders career enhancements and earning increases (Chung, 2020; Picchio and van Ours, 2016). Moreover, paternity leaves are usually uncommon or very poorly remunerated, thereby further increasing the disparities between genders regarding the childcare responsibilities (Castro-García and Pazos-Moran, 2016; Ray et al., 2010).

Traditional modes of dividing paid and unpaid care work between genders after childbirth entail substantial changes in the lives of women, but minimal changes in the lives of men (Baxter et al., 2008; Frenette, 2011; Kühhirt, 2012). Women, under traditional arrangements, carry out the bulk of childcare activities and can experience significant reductions in working time or transitions to unpaid full-time care work. Men, instead, take a residual part in the caring responsibilities and do not experience changes (or experience only minimal changes) in their working conditions as the result of the birth of a child. If traditional postnatal arrangements are introduced due to external constraints, the change in attitudes to conform beliefs to constrained behavior might be more pronounced for women than for men.

Similarly, if individuals find themselves trapped in constrained traditional postnatal arrangements, the change in attitudes might be more prominent when the prenatal gender role attitudes are more discordant with the postnatal arrangements in the gender division of paid and unpaid care work. This is because a more substantial revision in attitudes would be needed to make the beliefs of such individuals coherent with their constrained behavior. In this respect, a more substantial effect of traditionalization in women's attitudes could also be expected, given that they typically have more progressive views than men (Berridge et al., 2009; Sjöberg, 2004; Valentova, 2013).

Attitudes might also change due to modifications of the identity of individuals during the transition to parenthood. Identity is defined as one's sense of self, and it is constructed and

modified in relation to belonging to a specific social category (Akerlof and Kranton, 2000). The identity a person assumes thus encompasses a clear view of how a specific category of people should behave. Gender identity is a fundamental aspect of an individual’s identity, which unravels along with the social categories of gender, being a man or a woman. As such, it is shaped by a social norm pertaining to what is appropriate for women to do and what is appropriate for men to do (Bertrand, 2011). Even though gender norms are gradually becoming more progressive on average, they still impose a distinction between the tasks of men and women in paid and unpaid care work, which becomes particularly stringent when they are parents (more specifically, the bulk of unpaid care work is carried out by mothers; Craig and Mullan, 2011). Gender norms are influenced by specific contexts, at a macro level (e.g., the specific history and values of a country; Giuliano, 2018) and at a micro level (e.g., depending on socio-demographic contexts, such as one’s education or cultural/religious background; Du et al., 2020; Seguino, 2011). Therefore, these moderating forces might also shape the gender identity changes that occur following the transition to parenthood. However, becoming a mother generally makes a woman switch to a “woman with children identity”, which differs from a “woman with no children identity”, particularly concerning the tasks associated with caring responsibilities (Laney et al., 2015). In short, after experiencing parenthood, the attitudes of individuals might change in order to adhere more closely to the prevailing social norm. A direct consequence is that the traditionalization of attitudes after childbirth may be more marked for women and men who were more distant from such a social norm before childbirth (i.e., those with more progressive attitudes).

With this framework in mind, we move to the empirical analysis. After exploring the overall change in the gender role attitudes of men and women across the transition to parenthood, we analyze how prenatal attitudes and traditional postnatal arrangements can moderate the impact. This will allow us to obtain insights into the mechanisms described above. Before discussing the results of the paper, we now describe the empirical model and the data set.

4. Empirical model and identification

In order to estimate how the gender role attitudes of men and women change during the transition to parenthood, we start from the following model:

$$GRA_{it} = \alpha + \beta * FIRSTCHILD_{it} + \eta_i + \epsilon_{it}. \quad (1)$$

The dependent variable, GRA_{it} , denotes the gender role attitudes of individual i at time t , whereas $FIRSTCHILD_{it}$ is the regressor of interest. It is a dummy variable that takes on

the value of 1 if individual i enters into parenthood (i.e., has his/her first child) by time t , and 0 otherwise. The η_i variable collects all the time-invariant (observed and unobserved) factors that influence gender role attitudes and possibly affect the probability of becoming a parent, such as year and place of birth, personal background, and previous experiences. Finally, ϵ_{it} collects all the time-varying (observed and unobserved) factors that influence gender role attitudes and possibly the probability of having a first child, such as education, marital status, area of residence, religious devotion, and unpredictable shocks.

Since we are interested in the effect of becoming a parent on attitude changes of individuals, we exploit the panel dimension of our data (i.e., two waves, see below) and consider Equation (1) in differences.² Apart from allowing the change in attitudes during the transition to parenthood to be assessed directly, this strategy eliminates any observed and unobserved elements in η_i . This is of crucial importance because unobserved factors, such as cultural, family, and individual background and previous experiences, are likely to play a central role in determining both gender role attitudes and the probability of becoming a parent, thereby muddling the estimation of the impact, if not taken into account.

However, changes in the time-varying factors that occur between the two waves (i.e., $\epsilon_{it} - \epsilon_{it-1}$) can lead to a revision of attitudes and, at the same time, to a change in the probability of having a first child. In order to attenuate this possible source of bias, we controlled for several time-varying socio-demographic characteristics, which are known to be significantly related to gender role attitudes (see the above discussion). They include age, education, marital status, area of residence, and religious beliefs. Age is a critical control variable. While growing older may modify attitudes in a more conservative way, it may also positively influence the decision of having a first child. Similarly, a change in the educational level (e.g., obtaining a degree) may make the individual more progressive, also concerning gender roles, and contextually increase the probability of having a first child shortly after. Changes in the marital status may also influence both gender role attitudes and the probability of entering into parenthood. For example, getting married is likely to increase the probability of having a first child (many people get married and then have their first child) and may result in more conservative attitudes, possibly because gender stereotypes become more pressing once married. It may also be that moving to the countryside is associated with an increase in the probability of entry into parenthood (some people relocate to countryside areas when starting a family) and, at the same time, with more conservative attitudes, possibly because rural areas are characterized by stronger gender stereotypes. In the same

²In practice, we run fixed-effects regressions. Since we had a panel with two observations per individual, this is equivalent to running an ordinary least squares regression on first differences.

way, increases in religious devotion may raise the probability of entering into parenthood, and may also lead to a reconsideration of gender role views toward more traditional positions. In short, the inclusion of these relevant variables in our regressions limits the omitted variable bias, thus a better estimate of the impact is obtained.³

By estimating Equation 1 through a fixed-effects regression, we compare the attitudes of the *same* individual before and after becoming a parent, while controlling for an array of changes in other time-varying socio-demographic characteristics. It should be noted that our sample also comprises individuals that did not become parents in the observation windows. Thus, our estimated β incorporates a control group that serves to capture the impact of becoming a parent on changes in attitudes more clearly. For instance, if only individuals who became parents were considered, any attitude changes due to more macro shifts in attitudes would have ended in the estimated effect of entry into parenthood. In short, our fixed-effects estimates confront how the gender role attitudes of new parents change after the birth of their first child, compared to those individuals who did not become parents in the observation window, while also controlling for changes in the above-mentioned socio-demographic characteristics.

The fixed-effects estimation of Equation 1 provides the answer to our first research question, that is, how attitudes change across the transition to parenthood. To answer our other research questions, namely, how prenatal attitudes and the experience of and exposure to traditional arrangements shape the change in attitudes during the transition to parenthood, we estimate several other versions of the basic equation. We thus include variables interacted with our regressor of interest or run regressions on split samples (see the discussion in Section 6).

5. The Understanding Society data and the UK context

In order to perform our empirical analysis, we use Understanding Society, a rich individual- and household-level panel data set for the UK. The Understanding Society survey has been conducted every year since 2009, by the Institute for Social and Economic Research (ISER),

³Note that changes in income may play a role in influencing gender role attitudes as well as the probability of having a first child. An increase in household income may increase the probability of having a first child, and it may change the attitudes of the man and woman in the couple. For instance, according to the “doing gender” hypothesis, increases in the relative earnings of a woman may lead to the traditionalization of attitudes (and increases in a woman’s unpaid work efforts) to compensate for the deviation from the norm in the paid work domain (Kan et al., 2011; Sevilla-Sanz et al., 2010; Fortin, 2015). Though this argument would suggest that income might be a relevant variable to control for, we decided not to insert it into the regressions. It is by far more likely that changes in income happen as a consequence of becoming a parent (consider, for instance, the case in which a woman exits the labor market or reduces her working time due to childbirth) than as a precondition.

on approximately 40,000 households (at wave 1), sampled on the basis of a complex representative probability design. Individuals aged 16 or more in a household are interviewed every year about a wide range of topics, including gender role attitudes, children, family arrangements, and employment.⁴

The UK is a country that has a prevalence of the “modified male-breadwinner” model (also referred to as a “one-and-half earner” model), in which fathers are employed full-time and mothers work part-time (McMunn et al., 2020). It is one of the few countries (together with the Netherlands, Austria, and Germany) where the majority of employed mothers work on a part-time basis (33.3% of mothers of children aged 0-14 held part-time contracts in 2014). The full-time unpaid care work of mothers is also widespread (regarding 32.9% of mothers of 0-14 year old children in 2014).⁵ These prevalent arrangements emerge in a context of low availability and affordability of childcare services as well as very modest parental leaves (Thévenon, 2011).

Public childcare facilities, particularly for children aged 0-3, are sparse and insufficient (Bargawi et al., 2017; OECD, 2017). Although the UK government subsidizes the purchase of private childcare services by parents, they remain costly (Thévenon, 2011).⁶ The UK government issued tax-free vouchers for 15 hours of childcare per week to parents of children aged 3-4 in 2005. However, the underfunding of the sector significantly limits the number of places available to parents (McMunn et al., 2020). Coherently, a recent paper by Lauri et al. (2020) shows that, in the UK, as much as 43.3% of parents of children aged 0-4 find the affordability of childcare services very complicated (the UK features the highest percentage among the 22 countries considered in the study).

Although the UK government grants long maternity leaves (39 weeks are available to mothers before and after childbirth), paternity leaves are very modest and have only been introduced relatively recently (Ray et al., 2010). Since 2003, fathers are only entitled to 2 weeks of paternity leave during the first few months after childbirth. Even though only a few European countries have substantial parental leaves reserved for fathers (e.g., Nordic countries and the Netherlands), most of them provide leaves that can be shared between mothers and fathers. Instead, parental leaves in the UK have until recently been gender-specific. Moreover, parental leaves in the UK are poorly paid. For instance, only 6 weeks of maternity leave are paid at 90% of the average weekly pay, while the remaining 33 weeks

⁴The Understanding Society data set is described in detail and can be downloaded from <https://www.understandingsociety.ac.uk>.

⁵OECD data on maternal employment can be retrieved from <http://www.oecd.org/els/family/database.htm>.

⁶Nearly all parents can benefit from subsidies to date, but in the years covered by our observation window (2010-2013), subsidies were only directed toward those working parents who were eligible for state benefits (i.e., tax credits).

are paid at a (low) flat amount or at 90% of the average weekly pay, whichever is less. As a result, only a few families could afford the fathers to take paternity leave (Castro-García and Pazos-Moran, 2016).⁷

In our empirical analysis, we use waves 2 and 4 of the Understanding Society data set, which refer to the years 2010/2011 and 2012/2013, respectively. This is because information on gender role attitudes is only provided every two waves.

Gender role attitudes are probed through four Likert-type statements, which the respondents are asked to rate on a five-point scale, ranging from “strongly agree” to “strongly disagree”, in a self-completion section of the questionnaire. The statements are the following: (i) a pre-school child is likely to suffer if his or her mother works; (ii) all in all, family life suffers when the woman has a full-time job; (iii) both the husband and wife should contribute to the household income; (iv) a husband’s job is to earn money; a wife’s job is to look after the home and family. Where necessary (i.e., third statement), we recode responses so that a low value always reflects more traditional attitudes, while a high value always represents more egalitarian attitudes. In order to synthetically indicate gender role attitudes, we construct a simple score variable by summing the scores on the four items. This score variable ranges from 4, which represents very conservative gender role attitudes, to 20, which indicates very progressive attitudes, with 12 reflecting neutrality. We treat the score variable (and the single items) as cardinal variables, which allows us to apply simple linear estimation techniques, in our case, fixed-effects regressions. Many researchers who use Likert-type questions follow this approach (e.g., see Baxter et al., 2015). Linear estimation is more practical, especially when it is fundamental to control for unobserved time-invariant heterogeneity among individuals, and the conclusions are generally identical to those stemming from complex nonlinear models (e.g., see Ferrer-i Carbonell and Frijters, 2004; Riedl and Geisheckerb, 2014).

Since we are specifically interested in the effect of becoming a parent, rather than generically having a child, we construct a dummy variable that identifies people who had their *first* child between waves 2 and 4. In order to do so, we first identify whether the individual had a child between waves 2 and 4. To this aim, we exploit the information contained in the “newmum” and “newdad” variables, which indicate whether an individual has had a child since the last interview. We then use a series of variables present in the data to reconstruct the entire fertility history of the individual and assess whether the newborn child was the

⁷As of April 2015, mothers are allowed to share some of their maternity leave with their partners. However, the uptake of this option has remained very low (McMunn et al., 2020). For detailed studies that compare childcare and parental leave regimes across countries, see Lewis et al. (2008); Thévenon (2011); Ray et al. (2010).

first child.

The sample used in our analysis is composed of people in the fertility age (16-50), who (i) were observed and completed the self-completion questionnaire in wave 2 and had not had any children before that wave, and (ii) were observed and had completed the self-completion questionnaire in wave 4. Our sample is a perfectly balanced panel with two observations per individual. It should be noted that it also includes individuals that had not become parents by wave 4. It collects 3,892 individuals, of which 1,918 are women, and 1,974 are men. A total of 227 women (11.8%) and 155 men (7.9%) entered into parenthood between waves 2 and 4.

Table 1 shows summary statistics of gender role attitudes by gender, both pooled and differentiating between individuals who had become parents by wave 4 and those who had not (and, further, by wave). The (pooled) average value of the score variable stands at 14.83 for women and 13.89 for men, consistently with the finding reported in the literature that women, on average, display more progressive gender role attitudes than men. Even though the table only provides simple comparisons of the averages, those women who experience motherhood undergo a rather substantial change in attitudes toward more traditional positions (from 14.74 in wave 2, before childbirth, to 14.08 in wave 4, after childbirth). In contrast, no relevant changes are observed for the women who had not experienced childbirth (from 14.88 in wave 2 to 14.90 in wave 4). The pattern for males is similar, with new fathers experiencing relatively greater changes (toward more traditional positions) than men who had not entered into parenthood in our observation window, even though the magnitude of change for them is much lower than that of the women.

In order to obtain a better understanding of how the gender role attitudes of individuals are structured, we also present the average scores of each statement, since each one measures a particular aspect of gender role attitudes. The first and second statements (i.e., (i) a pre-school child is likely to suffer if his or her mother works and (ii) all in all, family life suffers when the woman has a full-time job) are related to opinions about what benefits children. The third and fourth statements (i.e., (iii) both the husband and wife should contribute to the household income and (iv) a husband's job is to earn money; a wife's job is to look after the home and family) instead refer to attitudes about the gender division of paid and unpaid work. Attitudes are somewhat different when considering what benefits children *versus* the gender division of labor, for both women and men (see the first two columns in Table 1). Although women and men, on average, hold more traditional views regarding opinions about what benefits children (i.e., children might suffer if the mother is involved in paid work activities), they seem more progressive concerning who should do paid work in the household (i.e., both should contribute to the household income). This suggests that egalitarian views

of the gender division of labor can coexist with traditional views of what benefits children (Baxter et al., 2015). Notably, women, on average, hold more progressive positions than men, for all four statements in the questionnaire. The fact that gender role attitudes are multidimensional and may capture many different aspects could explain the relatively modest internal consistency (Cronbach’s alpha equal to 0.67) of the four statements. Although we believe that the score variable is a reliable overall indicator of the gender role attitudes of an individual, we also present estimation results for each statement to examine whether the impact of entry into parenthood differs on the basis of the type of attitudes probed (see Subsection 6.1).

Table 2 reports summary statistics of the sample (pooled) pertaining to the gender role attitudes of men and women by relevant socio-demographic characteristics, including age, education, marital status, residential location, and religion. Coherently with previous findings in the literature, older individuals are associated with more conservative attitudes, on average. There is a rather marked difference in attitudes across different educational backgrounds, whereby less educated individuals tend to support more traditional values. The same marked pattern emerges for married individuals, both women and men, who display substantially lower values of the score variable than individuals who cohabit with their partner, but are not married. Religiosity is also associated with substantially less progressive gender role attitudes. A similar, but much weaker, trend is observed for individuals located in rural areas, compared to those who live in urban areas.

Finally, Table 3 presents our sample composition by the socio-demographic characteristics just mentioned, separately for women and men. The first two columns in the table report the pooled averages, whereas the other columns break the sample differentiating between individuals who had become parents by wave 4 and those who had not, and by wave. The women in the sample, on average, are nearly 30 years old, while the men are slightly more than 32 years old. The majority of the individuals in the sample have a high school qualification (56.3% of the women and 59.3% of the men). However, among those who had become parents by wave 4, the majority have a degree or a higher education qualification below the degree level (55.5% of the women and 51.0% of the men, in wave 4). Minimal changes in the educational composition are observed for those entering into parenthood between waves 2 and 4, thereby suggesting that those who became parents have completed their studies. Most of the men and women in the sample live as singles. However, among those who had become parents by wave 4, such a category represents a residual fraction (especially in wave 4, when the first child was born). The great majority of individuals who became parents are married in wave 4 (63.4% of the women and 78.7% of the men). A notable proportion of future parents got married between waves 2 and 4, coherently with the fact that entry into

parenthood follows shortly after marriage. Most individuals live in urban areas, while only slightly less than one-fifth of them live in rural areas. Among those who became parents, a slightly higher percentage live in rural areas, and no substantial changes in the residential location are observed across the transition to parenthood. More than half of the men and women declare they do not belong to any religion (55.8% of the women and 62.5% of the men). Religious belief is somewhat more widespread among the future parents, and a slight increase during the transition to parenthood is observed for women.⁸

Interesting insights have emerged from this preliminary descriptive evidence that gender role attitudes change substantially for individuals who enter into parenthood, particularly for women. On the other hand, we observed relevant differences in attitudes across the socio-demographic conditions and heterogeneity with respect to these characteristics when comparing people who became parents with people who did not. Moreover, individuals entering into parenthood undergo differential changes in these socio-demographic characteristics across the transition to parenthood. The econometric analysis, which controls for observed and unobserved fixed heterogeneity and changes in these characteristics, provides a robust assessment of whether and how the attitudes of men and women effectively change as a result of entry into parenthood. The next section presents and discusses the results of our econometric analysis.

6. Results and discussion

6.1. Main results

Tables 4 to 6 report the main results. All the results of the paper are obtained from fixed-effects regressions, which compare the change in attitudes of individuals who had become parents between waves 2 and 4 with the change in attitudes of individuals who had not become parents. All the estimation results control for changes in age, educational attainments, marital status, residential location, and religious beliefs, and are performed separately by gender. It should be noted that a negative coefficient associated with the *FIRSTCHILD_{it}* variable means that the gender role attitudes become more traditional after entry into parenthood, while a positive coefficient means that they become more progressive. All the standard errors are robust and clustered at the individual level.

⁸The net personal income is, on average, 1,381.34 Pounds per month for men and 1,203.85 for women (pooled, for all the individuals). Among those who became parents, we observed a markedly higher difference in income between the two genders: 1,897.28 Pounds per month for men compared to 1,286.14 for women (pooled). For these individuals, the gender gap in income increased from 35.8% to 59.4% between the two waves, consistently with the fact that mothers are more likely than fathers to transit into full-time unpaid care work and part-time work after childbirth.

Table 4 shows the impact of entry into parenthood on the change in attitudes of men and women, as measured by our aggregate score variable. Women are estimated to experience a significant change in attitudes toward more traditional positions after becoming mothers by 0.665 points on the 16-point score variable (first column in the table). The impact on men is also negative, but relatively small in magnitude (0.274) and not significant, thereby suggesting that, in general, men do not revise their attitudes after the entry into parenthood (second column in the table).

Table 5 reports the impact of entry into parenthood on the attitudes of men and women, as measured by each statement. First, we report that new mothers display a significant revision of their views for three out of the four statements probed, always toward more traditional positions. New mothers are estimated to become significantly more likely to think that family life suffers if the mother works on a full-time basis (column 2). On the contrary, they do not significantly modify their opinions about the idea that young children suffer if their mother works (column 1). This suggests that new mothers become more supportive of the idea that what actually damages children and family life is not generically their engagement in paid work, but rather in full-time paid work. New mothers become significantly less supportive of the idea that both the husband and the wife should contribute to the household income (column 3) and that the husband’s job is to earn money, while the wife’s job is to look after the home and family (column 4). Second, we report that new fathers do not display any significant changes in any of the four statements probed.

In general, becoming a parent significantly shifts a woman’s attitudes toward more traditional positions, while men’s attitudes remain substantially unchanged. A greater general impact on women might reflect more substantial changes in their gender identity and the emergence of stronger cognitive dissonance. The fact that women generally have more progressive gender role attitudes than men might be another reason for this diversified impact. A more substantial change for women would be required to conform to the prevailing social norms and attenuate any cognitive dissonance. Understanding how prenatal views and postnatal arrangements shape the observed overall impacts leads to important insights on the driving mechanism behind the change in attitudes during the transition to parenthood.

Table 6 focuses on men and women with progressive attitudes before the birth of their child, and explores how the experience of traditional postnatal arrangements in the gender division of paid and unpaid care work for these individuals affects the change in attitudes. First, we define men and women as “progressive” whenever their score variable at wave 2 (i.e., before the possible childbirth) is greater or equal to 16. Essentially, this amounts to requiring that the individual disagrees or strongly disagrees with all four (recoded) statements. About 43% of the women in our sample fall into this category, while the percentage of

men is somewhat lower (31.3%), consistently with the fact that men display more traditional attitudes than women.

The first column in the table (panel 1) shows that women who were progressive at wave 2 experience a significant and substantial traditionalization in attitudes following their entry into parenthood, and that they revise their attitudes by as many as -1.211 points on the 16-point score variable. The impact is not statistically significant on men, although it is negative and somewhat large in magnitude (-0.628).

The subsequent columns in Table 6 display the differential impact of traditional postnatal arrangements at wave 4 (i.e., when the expected child has been born). Two situations can be distinguished here that identify the experience of traditional arrangements: the non-use of external childcare and the women's transition to full-time unpaid care work.⁹ Women who do not receive any external help in caring for their children have to bear most of the childcare burden. Only in a few cases can new mothers, who do not use external childcare, count on the husband's or partner's help in caring for the child. As much as 76.3% of the new mothers in our sample, who do not resort to external childcare, declare they are the main person responsible for childcare. Only 18.3% of them declare that they share childcare activities with their husbands or partners, while a tiny fraction (5.4%) report that their husbands or partners are mainly responsible for their child's care. On the other hand, women who transit into full-time unpaid care after childbirth sacrifice (part of) their working life to look after the child, thereby experiencing traditional arrangements in the gender division of paid and unpaid care work.

The second column in the table (panel 2) reports the results relative to external childcare. New mothers with progressive views at wave 2 are estimated to undergo a significantly higher traditionalization of attitudes (by 1.265 points more) when they do not use external childcare than when they can count on some external help. The third column in the table (panel 3a) reports the results concerning a woman's transition into full-time unpaid care work in wave 4. Through entry into parenthood, women with progressive attitudes at wave 2, who transit into full-time unpaid work by wave 4, undergo a significantly greater change toward traditional attitudes (by 2.580 points more) than those who do not experience such a transition. The results of a robustness check, in which we only consider the transition of women out of paid employment that occurs between waves 3 and 4, thereby after or contemporaneously to the entry into parenthood, are presented in the fourth column in the table (panel 3b). Very

⁹External childcare includes any form of childcare carried out by someone other than the parents, including relatives, babysitters, and nursery services. As for men, information was retrieved on the use of external childcare and the partner's transition away from employment from the questionnaire on their cohabiting partner (see the footnote to the table for additional details).

similar estimates can be observed, which confirm that the transition of new mothers into full-time unpaid work, following entry into parenthood, significantly reinforces the change in attitudes toward more traditional positions. It is important to note that new mothers who were progressive at wave 2 undergo a significant traditionalization of attitudes, even when they do not experience traditional arrangements, although this traditionalization is much lower than when they do. On the contrary, the impact on new fathers who were progressive at wave 2 is not significant when they do not experience traditional arrangements. However, when there is no use of external childcare and when their spouse, or partner, transits into full-time unpaid care work, they appear to significantly revise their attitudes toward more conservative positions.

Table 7 replicates Table 6 for those women and men with conservative attitudes at wave 2. Attitudes at wave 2 are defined conservative if the score variable is lower than 16. The table shows that those individuals, both men and women, with conservative attitudes at wave 2 do not experience any significant change in attitudes during the transition to parenthood, even when they experience traditional postnatal arrangements.

These results suggest several considerations. Overall, they are compatible with the idea that the transition to parenthood implies substantial changes in the gender identity of women to conform to the existing social norms, and generates cognitive dissonance. Changes in identity to adapt to the prevailing social norms on parenting practices and the gender division of paid and unpaid care work might explain why a significant traditionalization of attitudes is only observed for women who, before childbirth, deviated from the norm, displaying very progressive attitudes. Those women who had already displayed conservative attitudes before childbirth did not revise their attitudes across the transition to parenthood, consistently with the fact that they were already more consonant with the prevalent gender norms before becoming mothers. Moreover, the strong traditionalization of attitudes observed among the women who experienced traditional postnatal arrangements that contradicted their very progressive views before childbirth is compatible with the cognitive dissonance mechanism. As previously discussed, traditional postnatal arrangements are often the result of constrained behavior, which might emerge from the combination of gender norms, stereotypes, and gendered institutional settings. Therefore, to attenuate the dissonance between prenatal progressive attitudes and postnatal conservative arrangements, attitudes might change to become more consonant to constrained arrangements. On the contrary, women who had already had conservative attitudes before childbirth should be less likely to experience cognitive dissonance. In this case, prenatal attitudes are more consonant with the emergence of (possibly constrained) traditional postnatal arrangements. Our results suggest that this mechanism might be at play. Women with conservative attitudes before childbirth did not

revise their attitudes to any great extent when they experienced traditional postnatal arrangements, not even when such arrangements entailed substantial changes in their lives (e.g., transition out of paid employment). The considered men, on the other hand, seemed to be affected less than the women when they became parents. They only started supporting more traditional views when their progressive attitudes before birth strongly contrasted with the experience of traditional postnatal arrangements. Thus, the need to conform to social norms and gendered arrangements seems lower in men, since it only emerges when they actually experience traditional arrangements. Progressive women became significantly more traditionalist in attitudes, albeit with varying intensities, even when they did not experience traditional arrangements. The need to conform to gender norms and experiences of cognitive dissonance might unfold in more multiform and subtler ways in women, which are also manifested when the modes of dividing paid and unpaid care work between genders are not (very) traditional.¹⁰

6.2. Robustness analyses

Even though traditional modes of dividing paid and unpaid work often emerge as external constraints, we cannot exclude that some individuals voluntarily choose such an option. Our results might thus be affected by the fact that individuals who experienced a greater traditionalization of attitudes (e.g., because of biological changes, changes in the set of preferences) might also have been more likely to voluntarily engage in traditional arrangements after childbirth. To attenuate this concern, we provide robustness evidence that measures the push toward conservative gender norms and the emergence of constrained traditional arrangements as exogenously as possible. In practice, we construct local-level indicators on the *exposure* to traditional gender norms and postnatal arrangements. We select three indicators to capture this. The first is living in areas characterized by more conservative gender role views. Gender stereotypes can be very pressing in such areas, and (consequently) local institutions may be more gendered. The second indicator is living in areas characterized by a limited use of external childcare. In such contexts, which are characterized by either a low availability or a low demand for external childcare, the institutional constraints and social norms that push toward a traditional gender division of labor are likely stronger, since external childcare is essential to allow women to continue working (full-time) after childbirth. The third indicator is living in areas characterized by low employment rates of mothers. Local areas characterized by a low participation of mothers in the labor market are likely related to more traditional local institutions and gender norms.

¹⁰For instance, as much as 65.7% of the interviewed new mothers who resorted to external childcare declared they were the figures that were mainly responsible for the (residual) childcare duties.

We retrieve information on gender role views, the use of external childcare, and the employment levels of mothers, pertaining to a particular local area, by exploiting the complete Understanding Society data set.¹¹ The geographical units of reference used to identify local areas are local authority districts, which are also referred to as “local government districts”. We specifically choose local authority districts because the UK adopts this form of subnational division for local governments. We compute the average views on the gender roles of each local authority district. We proxy the use of external childcare in each local authority district by computing the local-level percentage of parents of children aged 0-14 that use some form of external childcare. We measure the level of the employment of mothers in each local authority district by computing the local-level percentage of mothers of children aged 0-14 that have a paid job. We then classify the 405 local authority districts on the basis of whether they have low (below the median) or high (above the median) levels of our three measures. Finally, we merge this information with the men and women in our sample, to know whether they lived (in wave 4, after childbirth) in a more or less traditional local area.¹²

Table 8 presents the results of this test. It shows how the attitudes of men and women with progressive views at wave 2 change across the transition to parenthood on the basis of the degree of exposure to traditional arrangements and gender norms, as captured by the three above-mentioned local-level indicators.

The general picture that emerges is coherent with our main results, thereby further pointing to the crucial role of institutions and gender norms in shaping changes in attitudes during the transition to parenthood. The change toward more traditional positions of women with progressive prenatal attitudes is substantially greater when they live in traditional local contexts than when they live in less conservative areas. Women who are progressive at wave 2 and live in local authority districts characterized by more conservative gender role views experience a traditionalization in attitudes following the entry into motherhood of as much as 1.858 points on the 16-point score variable. This impact is more than halved (-0.761) when they live in areas characterized by less traditional gender role views, compatibly with the fact that the distance they need to cover to conform to the prevailing gender norms is lower in such places. A lower traditionalization of attitudes during the transition to

¹¹We used wave 1 to measure the local use of external childcare and the employment levels of mothers, and wave 2 to proxy the local gender role attitudes. Both waves included around 50,000 individuals. We chose the initial waves in order to have the largest samples possible. We excluded the individuals considered in our sample from the computation of the local area averages in order to avoid possible endogeneity problems.

¹²Since the location, at wave 4, may have been the result of a change in attitudes after childbirth, we also ran robustness checks in which we considered the location at wave 2, before childbirth. The results remained unchanged.

motherhood is detected for women who live in areas characterized by a higher use of external childcare (-1.077) compared to those who live in contexts where external childcare is less widespread (-1.342). A similar pattern emerges for women located in contexts of higher employment rates of mothers. They are estimated to revise their attitudes by -0.943 , a substantially lower amount than women located in areas with a low employment rate of mothers (-1.491). The emergence of constrained traditional arrangements is lower in the less traditional contexts. Less room for cognitive dissonance could explain why they are characterized by a lower traditionalization of attitudes. New fathers who were progressive at wave 2 only display a significant traditionalization of attitudes when they are effectively more exposed to traditional arrangements (i.e., a limited use of external childcare and low employment rates of mothers). This reflects and reinforces our previous finding that men only revise their attitudes when confronted with traditional arrangements, whereas women also seem influenced by the necessity of adapting to social norms.

Finally, Table 9 replicates Table 8 for men and women with conservative attitudes at wave 2. Overall, the attitudes of these individuals are not significantly affected during the transition to parenthood, irrespective of whether they are located in more or less traditional areas.¹³ This finding is again consistent with our main results, whereby it emerges that those individuals who adhere more to prevailing social norms and have attitudes that are compatible with traditional postnatal arrangements do not undergo any significant changes to either conform to such views or to attenuate possible cognitive dissonance.

7. Conclusions

Motivated by the relevance of the attitudes of individuals toward parenting practices and the gender division of paid and unpaid care work in determining the economic outcomes of women, we used rich longitudinal data from the UK and fixed-effects regressions to explore how the gender role attitudes of men and women change after a critical life event: becoming a parent.

Understanding how and why the attitudes of men and women change after entry into parenthood is important because becoming a parent often entails a path-breaking change in the division of paid and unpaid work between the members of a couple. Women often find themselves taking care of their children almost entirely on their own, which in turn leads to a reduction in their involvement in their jobs, decreases in their working times, or even their exiting the labor market. Even when these changes are temporary, they can

¹³We only detected a slightly significant and relatively small impact on traditionalization for new mothers with conservative prenatal attitudes when they were exposed to a limited use of external childcare.

permanently compromise the working lives of women, with reference to their earnings and career perspectives. Prevailing social norms and gendered institutional settings play crucial roles in shaping the economic outcomes of women. Gendered institutions act explicitly. The lack of public childcare facilities and costly private childcare, the exiguity of paternity leaves, and the scarcity of part-time jobs for men often entail traditional modes of dividing paid and unpaid care work between the partners in the couple. Gender norms and stereotypes instead act in a subtler way, by originating pressures to conform to the existing practices.

By exploiting information on the prenatal and postnatal gender role attitudes of individuals and the arrangements in the gender division of paid and unpaid care work that emerge after childbirth, we have explored how such prevailing gender norms and institutions might shape the change in attitudes of men and women during the transition to parenthood.

First, we found a high discrepancy between the two genders, with women starting to support more conservative positions following the entry into motherhood and men displaying no change, on average. Second, the experience of traditional postnatal arrangements, which we captured through the non-use of external childcare and the transitions of women out of the labor market, is a crucial moderating factor. The experience of traditional postnatal arrangements has an important effect on potentiating the change toward more traditional attitudes for women and men with progressive attitudes before childbirth. On the contrary, both women and men who had conservative attitudes before the birth of a child did not undergo any significant change, not even when they experienced traditional modes of dividing paid and unpaid care work after childbirth. We found the same picture when considering exposure (captured by local-level indicators) to traditional settings in the gender division of paid and unpaid care work and conservative gender role attitudes. When women and men are exposed to more traditional local contexts, they undergo a much greater traditionalization of attitudes, but only when their prenatal attitudes were progressive. When the prenatal attitudes of individuals are conservative, no significant change in attitudes is observed following entry into parenthood, irrespective of their exposure to more or less traditional contexts.

Taken together, our results provide evidence that institutions and gender norms play a prominent role in shaping changes in attitudes during the transition to parenthood. Overall, they indicate that the need to conform to gender norms and constrained traditional arrangements is an important source of changes in attitudes. However, other mechanisms might also be at play. For instance, recent studies suggest that biological factors can be important determinants of changes in attitudes, especially regarding childbearing, a moment in which hormones undergo intense modifications in both women and men (Davis and Risman, 2015; Udry, 2000). However, all of our tests suggest that the change in attitudes (toward more traditional positions) happened in people who were more distant from the prevailing social

norms, that is, those who displayed very progressive attitudes before childbirth. The experience of traditional postnatal arrangements and the exposure to traditional local contexts substantially potentiates the change in such individuals toward traditional attitudes. On the one hand, our results are consistent with a tendency (particularly for women) to revise attitudes in order to conform to prevailing gender norms, which likely occur through gender identity changes during the transition to parenthood. On the other hand, our findings indicate that cognitive dissonance might also be a crucial driving mechanism. Constrained traditional modes of dividing paid and unpaid work between the two genders seem to encourage women and men, albeit to a lesser extent, to become supportive of traditional arrangements. Men and women do not seem to react to constrained traditional arrangements. Instead, they seem to conform their attitudes to the traditional arrangements they experience and are exposed to, thereby propagating them.

The policy implications of our results are broad. Policy makers should devise policies to interrupt the vicious circle reported in our findings, whereby gendered institutions and traditional social norms reinforce the support of individuals for these settings. This is important to foster gender equality, whereby mothers are granted the possibility of having a full working life without being forced to choose between children and work. The tasks of governments could include taking active steps to promote paternity leaves, part-time work for men, and public childcare services, as well as measures to fight against gender stereotypes. The possibility that institutions have of enhancing gender equality is well known. For example, recent evidence suggests that longer paternity leaves can engender significant and long-lasting changes in the contribution of men toward unpaid care activities (Bünning, 2015; Rehel, 2014). To the extent that this and other measures produce egalitarian arrangements, the attitudes of people can change correspondingly. In turn, this could encourage the modification of existing traditional gender norms toward more progressive values, thereby favoring the onset of a virtuous circle in which institutions and attitudes move our societies, in a reciprocal relationship, toward greater gender equality.

This paper provides evidence on the UK. This country has a specific institutional and cultural background, with a similar childcare and family support system to other Anglo-Saxon countries, such as New Zealand, Ireland, and Canada (Thévenon, 2011). A “modified male breadwinning model” is prevalent in the UK, where mothers often work part-time and fathers full-time as a strategy of combining employment and childcare duties in a context of a lack of public childcare, costly private childcare services, and exiguous paternity leaves (Crompton, 2006; McMunn et al., 2020). Although our results might be generalizable to other countries with similar institutions, further evidence on countries with different contexts and backgrounds would help to contribute to deepening the understanding of the mechanisms

behind the change in attitudes across the transition to parenthood, and to better comprehend how the interplay between institutions and social norms influences the formation and change in attitudes.

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Table 1: **Summary statistics of the sample. Gender role attitudes: score variable and single statements by gender, pooled, and by entry into parenthood and wave.**

	Women Pooled	Men Pooled	Women				Men			
			No EIP		EIP		No EIP		EIP	
			W2	W4	W2	W4	W2	W4	W2	W4
Score variable	14.83 (2.79)	13.89 (2.80)	14.88 (2.75)	14.90 (2.83)	14.74 (2.53)	14.08 (2.85)	13.92 (2.85)	13.88 (2.72)	13.88 (2.75)	13.61 (3.14)
Statement (i)	3.33 (1.00)	3.03 (1.00)	3.31 (1.00)	3.34 (0.99)	3.36 (0.95)	3.39 (1.06)	2.99 (1.00)	3.05 (0.99)	3.05 (0.96)	3.14 (1.17)
Statement (ii)	3.54 (1.07)	3.36 (1.04)	3.55 (1.06)	3.60 (1.06)	3.46 (1.01)	3.21 (1.13)	3.37 (1.05)	3.37 (1.02)	3.33 (1.05)	3.23 (1.16)
Statement (iii)	3.88 (0.91)	3.71 (0.91)	3.91 (0.90)	3.89 (0.91)	3.88 (0.92)	3.65 (1.00)	3.75 (0.91)	3.68 (0.88)	3.73 (0.96)	3.57 (1.00)
Statement (iv)	4.07 (0.97)	3.79 (1.02)	4.11 (0.97)	4.07 (0.98)	4.04 (0.92)	3.84 (1.01)	3.80 (1.05)	3.79 (0.99)	3.78 (1.06)	3.66 (1.05)
Observations	3,836	3,948	1,691	1,691	227	227	1,819	1,819	155	155

Source: Understanding Society (waves 2 and 4)

Mean and standard deviation (in parentheses). The score variable ranges from 4 to 20; the single statements range from 1 to 5. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. EIP stands for “entry into parenthood”; W2 and W4 stand for “wave 2” and “wave 4”, respectively. Statement (i): A pre-school child is likely to suffer if his or her mother works. Statement (ii): All in all, family life suffers when the woman has a full-time job. Statement (iii): A husband’s job is to earn money; a wife’s job is to look after the home and family. Statement (iv): Both the husband and wife should contribute to the household income.

Table 2: **Summary statistics of the sample. Gender role attitudes: score variable by gender and socio-demographic characteristics (pooled).**

	Women	Men
Age		
Under 30	15.00 (2.87)	14.08 (2.86)
Over 30	14.60 (2.65)	13.70 (2.72)
Education		
High educational level	14.97 (2.83)	14.09 (2.77)
Medium educational level	14.79 (2.75)	13.89 (2.79)
Low educational level	13.89 (2.78)	12.96 (2.82)
Marital status		
Living as a single in a household	14.94 (2.78)	13.83 (2.79)
Cohabiting with a partner	15.11 (2.79)	14.28 (2.67)
Living with a spouse	14.42 (2.75)	13.77 (2.87)
Area of residence		
Urban area	14.84 (2.79)	13.90 (2.80)
Rural area	14.80 (2.77)	13.83 (2.79)
Religion		
Belonging to a religion	14.48 (2.83)	13.24 (2.91)
Not belonging to a religion	15.11 (2.72)	14.28 (2.65)
Observations	3,836	3,948

Source: Understanding Society (waves 2 and 4)

Mean and standard deviation (in parentheses). The score variable ranges from 4 to 20. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. The “under 30” category includes individuals aged 30. The high educational level refers to qualifications obtained after the high-school diploma (i.e., degree or equivalent and above, and higher education qualification below degree level); the medium educational level refers to a high-school diploma (i.e., A-level or GCSEs and their equivalents); the low education level indicates other qualifications below the high-school diploma or no qualifications.

Table 3: Summary statistics of the sample. Sample composition by gender and socio-demographic characteristics, pooled, and by entry into parenthood and wave.

	Women Pooled		Men Pooled		Women				Men			
	W2	W4	W2	W4	No EIP	EIP	No EIP	EIP	No EIP	EIP	No EIP	EIP
Age												
Years of age (mean; standard deviation in parentheses)	29.68 (9.32)	32.35 (10.69)	28.74 (9.63)	30.76 (9.62)	28.11 (5.87)	30.13 (5.88)	31.34 (10.97)	33.36 (10.97)	31.35 (5.53)	33.39 (5.51)		
Education												
High educational level (%)	40.12	33.33	35.42	40.80	54.63	55.51	30.07	33.64	50.32	50.97		
Medium educational level (%)	56.28	59.25	60.32	55.77	43.61	42.73	61.79	59.04	45.81	45.16		
Low educational level (%)	3.60	7.42	4.26	3.43	1.76	1.76	8.14	7.31	3.87	3.87		
Marital status												
Living as a single in a household (%)	54.77	58.59	62.02	57.60	23.35	11.01	64.65	61.63	9.68	0.65		
Cohabiting with a partner (%)	18.95	16.97	18.10	18.04	25.99	25.11	16.71	16.05	27.10	20.65		
Living with a spouse (%)	26.28	24.44	19.87	24.36	50.66	63.88	18.64	22.32	63.23	78.71		
Area of residence												
Urban area (%)	80.68	81.79	81.01	80.96	77.97	78.85	82.02	82.19	78.06	78.06		
Rural area (%)	19.32	18.21	18.98	19.04	22.03	21.15	17.98	17.81	21.94	21.94		
Religion												
Belonging to a religion (%)	44.24	37.49	44.41	42.70	48.02	50.66	37.44	36.45	44.52	43.23		
Not belonging to a religion (%)	55.76	62.51	55.59	57.30	51.98	49.34	62.56	63.55	55.48	56.77		
Observations	3,836	3,948	1,691	1,691	227	227	1,819	1,819	155	155		

Source: Understanding Society (waves 2 and 4)

EIP stands for “entry into parenthood”; W2 and W4 stand for “wave 2” and “wave 4”, respectively. The educational levels are defined as in Table 2.

Table 4: **The impact of entry into parenthood on gender role attitudes: score variable, by gender.**

<i>Dependent variable: score variable</i>		
	Women	Men
Entry into parenthood	-0.665*** (0.208)	-0.274 (0.253)
Age		
Years of age	-0.005 (0.031)	-0.009 (0.029)
Education		
Medium educational level	-0.394 (0.251)	-0.443 (0.271)
Low educational level	-1.335 (0.904)	-0.337 (0.788)
Marital status		
Cohabiting with a partner	-0.109 (0.204)	-0.121 (0.213)
Living with a spouse	-0.230 (0.292)	-0.143 (0.307)
Area of residence		
Rural area	+0.300 (0.254)	-0.190 (0.374)
Religion		
Not belonging to a religion	-0.050 (0.153)	-0.250 (0.167)
Observations	3,836	3,948
Individuals	1,918	1,974
Individuals entering into parenthood between waves 2 and 4	227	155
Individuals entering into parenthood between waves 2 and 4 (%)	11.84%	7.85%

Source: Understanding Society (waves 2 and 4)

Fixed-effects estimates; robust standard errors, clustered at the individual level, in parentheses; ***, **, and * denote the 1%, 5%, and 10% significance levels, respectively. The score variable ranges from 4 to 20. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. The reference group for education is the high educational level. The educational levels are defined as in Table 2. The reference group for marital status is that of living as a single in a household.

Table 5: **The impact of entry into parenthood on gender role attitudes: single statements, by gender.**

<i>Dependent variables: single statements</i>								
	<i>Statement (i)</i>		<i>Statement (ii)</i>		<i>Statement (iii)</i>		<i>Statement (iv)</i>	
	Women	Men	Women	Men	Women	Men	Women	Men
Entry into parenthood	+0.022	+0.055	-0.308***	-0.108	-0.219***	-0.106	-0.161**	-0.114
	(0.081)	(0.110)	(0.086)	(0.102)	(0.077)	(0.082)	(0.079)	(0.081)
Observations	3,836	3,948	3,836	3,948	3,836	3,948	3,836	3,948

Source: Understanding Society (waves 2 and 4)

Fixed-effects estimates; robust standard errors, clustered at the individual level, in parentheses; ***, **, and * denote the 1%, 5%, and 10% significance levels, respectively. Single statements range from 1 to 5. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. All the estimations include the same set of controls used in Table 4. Statement (i): A pre-school child is likely to suffer if his or her mother works. Statement (ii): All in all, family life suffers when the woman has a full-time job. Statement (iii): A husband's job is to earn money; a wife's job is to look after the home and family. Statement (iv): Both the husband and wife should contribute to the household income.

Table 6: The impact of entry into parenthood on gender role attitudes: progressive prenatal gender role attitudes and postnatal experience of traditional arrangements; score variable, by gender.

		<i>Dependent variable: score variable</i>							
1. Progressive prenatal gender role attitudes		2. Progressive prenatal gender role attitudes and no use of external childcare		3a. Progressive prenatal gender role attitudes and women's transitions away from employment		3b. Progressive prenatal gender role attitudes and women's transitions away from employment (only between waves 3 and 4)			
		Women	Men	Women	Men	Women	Men		
Entry into parenthood		-1.211*** (0.303)	-0.628 (0.453)	-0.580* (0.351)	+0.328 (0.687)	-1.110*** (0.312)	-0.320 (0.522)	-1.196*** (0.321)	-0.385 (0.552)
No use of external childcare				-1.265** (0.553)	-1.744* (0.940)				
Woman's transition away from employment						+0.924** (0.466)	//	+0.813 (0.498)	//
Woman's transition away from employment * entry into parenthood						-2.580*** (0.929)	-4.163*** (0.593)	-2.015** (0.950)	-4.069*** (0.612)
Observations		1,650	1,234	1,650	1,212	1,650	1,212	1,572	1,126

Source: Understanding Society (waves 2 and 4)

Fixed-effects estimates; robust standard errors, clustered at the individual level, in parentheses; ***, **, and * denote the 1%, 5%, and 10% significance levels, respectively. The score variable ranges from 4 to 20. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. All the estimations include the same set of controls used in Table 4. Prenatal gender role attitudes were defined as “progressive” if the value of the score variable in wave 2 was greater than or equal to 16. We retrieved information on the use of external childcare and the partner's transition away from employment from the questionnaire on the partner with whom they cohabited. However, this information was not available for a few individuals (11), who therefore had to be excluded from the estimation. Single men were given a value of 0 on the “woman's transition away from employment” variable in order to keep them in the sample. There were no men whose partners exited the labor market without contextually entering into parenthood (i.e., the “woman's transition away from employment” variable was not identified). Those observations (5-8%) for which we were unable to reconstruct information on the transitions away from employment between waves 3 and 4 were removed from analysis 3b.

Table 7: The impact of entry into parenthood on gender role attitudes: conservative prenatal gender role attitudes and postnatal experience of traditional arrangements; score variable, by gender.

		<i>Dependent variable: score variable</i>							
		1. Conservative prenatal gender role attitudes		2. Conservative prenatal gender role attitudes and no use of external childcare		3a. Conservative prenatal gender role attitudes and women's transitions away from employment		3b. Conservative prenatal gender role attitudes and women's transitions away from employment (only between waves 3 and 4)	
		Women	Men	Women	Men	Women	Men	Women	Men
Entry into parenthood		-0.283 (0.236)	-0.144 (0.275)	-0.262 (0.287)	+0.080 (0.390)	-0.325 (0.246)	-0.185 (0.313)	-0.307 (0.255)	+0.023 (0.306)
No use of external childcare				-0.042 (0.427)	-0.436 (0.581)				
Woman's transition away from employment						-1.020 (0.628)	//	-1.402* (0.720)	//
Woman's transition away from employment * entry into parenthood						+1.360 (0.991)	+2.207 (1.872)	+1.060 (1.077)	-0.178 (1.029)
Observations		2,186	2,714	2,186	2,646	2,186	2,646	2,026	2,474

Source: Understanding Society (waves 2 and 4)

Fixed-effects estimates; robust standard errors, clustered at the individual level, in parentheses; ***, **, and * denote the 1%, 5%, and 10% significance levels, respectively. The score variable ranges from 4 to 20. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. All the estimations include the same set of controls used in Table 4. Prenatal gender role attitudes were defined as "conservative" if the value of the score variable in wave 2 was lower than 16. We retrieved information on the use of external childcare and the partner's transition away from employment for men from the questionnaire on the partner with whom they cohabited. This information was not available for a few individuals (34), who were excluded from the estimation. Single men were given a value of 0 for the "woman's transition away from employment" variable in order to keep them in the sample. There are no men whose partner exited the labor market without contextually entering into parenthood (i.e., the "woman's transition away from employment" variable was not identified). Those observations (7%) for which we were unable to reconstruct information on the transition away from employment between waves 3 and 4 were removed from analysis 3b.

Table 8: **The impact of entry into parenthood on gender role attitudes: progressive prenatal gender role attitudes and postnatal exposure to traditional arrangements; score variable, by gender.**

<i>Dependent variable: score variable</i>						
High exposure to traditional arrangements	1a. Progressive prenatal gender role attitudes and living in an area characterized by conservative gender role attitudes		2a. Progressive prenatal gender role attitudes and living in an area characterized by a limited use of external childcare		3a. Progressive prenatal gender role attitudes and living in an area characterized by a low employment rate of mothers	
Entry into parenthood	Women -1.858*** (0.462)	Men -0.837 (0.732)	Women -1.342*** (0.440)	Men -1.565*** (0.572)	Women -1.491*** (0.408)	Men -1.092* (0.567)
Observations	690	520	836	618	886	680
Low exposure to traditional arrangements	1b. Progressive prenatal gender role attitudes and living in an area characterized by progressive gender role attitudes		2b. Progressive prenatal gender role attitudes and living in an area characterized by a high use of external childcare		3b. Progressive prenatal gender role attitudes and living in an area characterized by a high employment rate of mothers	
Entry into parenthood	Women -0.761** (0.388)	Men -0.420 (0.531)	Women -1.077*** (0.410)	Men -0.033 (0.598)	Women -0.943** (0.449)	Men -0.070 (0.675)
Observations	960	714	814	616	764	554

Source: Understanding Society (waves 2 and 4)

Fixed-effects estimates; robust standard errors, clustered at the individual level, in parentheses; ***, **, and * denote the 1%, 5%, and 10% significance levels, respectively. The score variable ranges from 4 to 20. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. All the estimations include the same set of controls used in Table 4. Prenatal gender role attitudes were defined as “progressive” if the value of the score variable in wave 2 was greater than or equal to 16. Information on gender role attitudes, the use of external childcare services, and the employment levels of mothers in a particular geographical area was proxied from the complete Understanding Society data set (waves 1 or 2). The geographical units of reference were the local authority districts. Partitions between local authority districts, based on gender role attitudes (conservative *versus* progressive), the use of external childcare (low *versus* high), and the employment levels of mothers (low *versus* high) were defined on the basis of whether they were above or below the medians of the relevant distributions at the local authority district level.

Table 9: **The impact of entry into parenthood on gender role attitudes: conservative prenatal gender role attitudes and postnatal exposure to traditional arrangements; score variable, by gender.**

<i>Dependent variable: score variable</i>						
High exposure to traditional arrangements	1a. Conservative prenatal gender role attitudes and living in an area characterized by conservative gender role attitudes	2a. Conservative prenatal gender role attitudes and living in an area characterized by a limited use of external childcare	3a. Conservative prenatal gender role attitudes and living in an area characterized by a low employment rate of mothers			
	Women	Men	Women	Men	Women	Men
Entry into parenthood	-0.436	-0.414	-0.601*	+0.240	-0.368	-0.094
	(0.317)	(0.398)	(0.335)	(0.429)	(0.329)	(0.433)
Observations	1,132	1,396	1,210	1,450	1,308	1,544
Low exposure to traditional arrangements	1b. Conservative prenatal gender role attitudes and living in an area characterized by progressive gender role attitudes	2b. Conservative prenatal gender role attitudes and living in an area characterized by a high use of external childcare	3b. Conservative prenatal gender role attitudes and living in an area characterized by a high employment rate of mothers			
	Women	Men	Women	Men	Women	Men
Entry into parenthood	-0.150	+0.085	-0.059	-0.512	-0.184	-0.195
	(0.356)	(0.366)	(0.331)	(0.350)	(0.337)	(0.326)
Observations	1,054	1,318	976	1,264	878	1,170

Source: Understanding Society (waves 2 and 4)

Fixed-effects estimates; robust standard errors, clustered at the individual level, in parentheses; ***, **, and * denote the 1%, 5%, and 10% significance levels, respectively. The score variable ranges from 4 to 20. High values represent more progressive gender role attitudes, while low values indicate more conservative gender role attitudes. All the estimations include the same set of controls used in Table 4. Gender role attitudes were defined as “conservative” if the value of the score variable in wave 2 was lower than 16. For information on the construction of the variables related to the exposure to traditional arrangements, see the footnote to Table 8.