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Changes in attitudes towards gender norms following childbirth

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Abstract

While the increase in the gender wage gap following childbirth is well-documented in the literature much less is known about what stands behind this development. This research focuses on one possible channel: changes in attitudes towards gender roles. Using longitudinal data from several European countries, I show that respondents tend to adopt more conservative views following childbearing, particularly in the case of the importance of having a child, and whether men should have priority when jobs are scarce. Moreover, the relation appears to be driven by respondents in countries where women shoulder a bigger share of household chores, and where less formal care is available.

JEL-Classification: J13, J16

Keywords: gender norms, child-birth, cross-country comparison, institutions

1 Introduction

Women living in societies prescribing more traditional gender norms tend to have worse economic outcomes than women living in more progressive countries. Uunk (2015) find a significant difference in labour market participation even after accounting for individuals actual adherence to these norms. On a similar vein, Kleven et al. (2019) estimated that women living in countries with more traditional norms experienced a larger, unexplained drop in wages following childbirth. These differences not only arise from international comparisons. In the United States, a relatively homogeneous country, Charles et al. (2018) finds that living in a more sexist area reduces labour market participation by as much as three percentage points. Importantly, norms (and, more broadly, culture) affect participation decisions even after individuals moved to different locations (Fernández and Fogli 2009, Charles et al. 2018). Understanding why individuals adhere to traditional gender norms and how this adherence evolves could play a role in diminishing gender inequality.

In this light, gender inequality should fall as more progressive views towards women's labor market participation become dominant in a given society. According to Brooks and Bolzendahl (2004), such transformation is already underway, at least in the United States. Their research highlights that progressive views become dominant by cohort replacement: as younger cohorts increase their demographic weight, their progressive views become more predominant. While these developments describe the evolution at the societal level, empirical evidence suggests that within cohort changes are just as prevalent. However, the usual finding is that they act in the opposite direction. A growing volume of research has identified that parents tend to agree with more traditional gender norms following childbirth (Borrell-Porta et al. 2019, Baxter et al. 2014, Schober and Scott 2012, Berrington et al. 2008). Understanding these changes in attitudes is essential both from a perspective of the evolution of norms and from the perspective of their direct consequences of gender inequality. If individuals change their behavior to agree with their beliefs, one could expect an increased inequality following childbirth.

In spite of the relevance of adhering to these norms for gender differences, evidence on how life events impact on individuals adherence to these norms remains scarce and concentrated in Anglo-saxon countries (Australia, England and the United States). This research attempts to fill this void by documenting how childbearing affects parents' attitudes towards traditional gender norms using data from several European countries. This greater data availability allows not only testing how general the results found by the literature are, but also allows evaluating hypotheses on how the institutional context mediates the relationship between childbearing and attitudes towards gender norms. The article also contributes to the literature by comparing the effects of childbearing on men and women, instead of focusing on respondents from a single gender.

The study benefits from the Generations and Gender Survey (GGS) data to conduct such a comparative analysis. These data covers 20 European countries (and Australia), and its questionnaires emphasize workers' careers, family changes and attitudes towards gender norms. The survey contains many of the questions used as markers of adherence to traditional gender norms used by the existing literature (see Seguino 2007, Berrington et al. 2008, Kleven et al. 2019, Borrell-Porta et al. 2019, among others). In addition to a rich set of variables concerning attitudes and fertility history, the GGS also contains a longitudinal dimension for 14 countries. This panel dimension allows estimating the relation using a difference-in-difference approach that addresses concerns over the endogeneity of having children.

In consonance with previous studies, GGS data reveals that parents adopt more traditional attitudes following childbirth. In the preferred specification, coefficients show that women are up to 6 p.p. more likely to agree with the statement that men should have priority in access to scarce jobs. This difference is comparable to that of unmarried to married women or women with completed university studies against women with only a high-school diploma. Among men, the impact of having a child are mostly related to relations within the family. Men become more likely to indicate that children are required to be fulfilled and that children suffer if their mother works. Taken together, these results suggest increased support for the male breadwinner model, where women withdraw from the labour market, and men support this decision.

The analysis of cross-country heterogeneity provides additional knowledge on the mechanisms. By and large, coefficients are driven by respondents in Central and Eastern European countries, which among others are characterized by relatively worse conditions for work-family reconciliation (Matysiak and Węziak-Białowolska 2016) and by parental leave schemes that reinforce traditional gender roles (Ciccia and Verloo 2012). This result is consistent with evidence on increased gender inequality observed in those countries during the transition to market economies. Using GGS data allows splitting estimates based on the prevalence of institutionalized care, the share of household chores performed by women, and a measure of inequality on gender roles. Childbearing had a stronger effect on gender norms in those countries with less institutionalized care, in countries where women perform a larger share of household chores, and in countries where norms prescribe greater gender roles differentiation. Evidence suggests that insufficient support for working parents, such as childcare availability or availability of flexible working time arrangements, leads couples to review their attitude towards traditional gender norms. One can interpret this result using the cognitive dissonance framework Kranton (2016). Couples might have initially held progressive views on gender norms, but faced with the impossibility of living up to those ideals, they modified their perspective on norms.

The paper is organized as follows. The next section discusses the previous literature and the mechanisms that link fertility realizations and changes in gender norms. Section 3 introduces the database and the relevant descriptive statistics. Section 4 discusses the empirical strategy, its potential pitfalls and how they are addressed. Section 5 presents the results from the main specifications. Section 6 discusses the results and concludes.

2 Literature review

The article contributes to the literature on changes in attitudes following childbirth. As such, it belongs to the tradition stating that attitudes are malleable also during adulthood and that particularly relevant events play an important role in shaping our identities. This strand of the literature has received empirical validation from several recent studies. Berrington et al. (2008) and Baxter et al. (2014) study how the first child affects gender attitudes among parents in the United Kingdom and Australia. Both conclude that after childbirth, parents state views consistent with traditional gender norms, though the channels leading to the revision of attitudes might be different. Besides giving birth, the literature also identified significant effects relating attitudes to the gender of the firstborn child. Borrell-Porta et al. (2019) find that British fathers express more progressive views on gender inequality if they parent a daughter, though the effect becomes significant only when the daughter reaches school-age. Previous studies had also found that the gender of the first child can affect political views, though the findings are mixed (see Conley and Rauscher 2013). More recently, Danzer et al. (2021) indicate that attitudes towards gender norms can also be affected by transitory shocks. Specifically, they find that confinement measures during the Covid pandemic in Germany lead to parents expressing more traditional attitudes towards female employment.

In this research, the process that leads to the changes in attitudes is characterized as follows. Couples have their initial views on gender equality, which can be progressive or not. They could agree to an even distribution of household chores and, to a certain extent, commit to what the distribution of childcaring activities upon childbirth would look like (similar to Doepke and Kindermann 2019). However, these agreements are based on biased expectations. In Kuziemko et al. (2018), these biased expectations concerning costs of maternity are rooted in two elements. First, individuals forecast the cost of having a child based only on what they observed from their parents. Individuals, however, are unable to separate the innate ability, which they inherit, from a random component. Under such a scenario, some individuals underestimate their ability and refrain from having children even though *ex post* it would have increased their well-being. Similarly, other couples overestimate their ability and consequently decide to have children, even though *ex post* that decision is not optimal. This source of bias is all the more relevant when more uncertainty is involved. If the noise to signal ratio is low, then the share of couples that over/underestimate their ability is low.

The second channel that could bias the decision concerns the predicted costs of having children. While related to the ability, the costs can be more easily measurable. Doepke and Zilibotti (2019) estimate that parents in the early 2000s spend an additional hour per day on child-related activities when compared to parents in the 1970's. This increase is driven by care-intensive activities, as opposed to passive leisure, such as watching television. If couples based their cost estimates on their parents' generation, they will underestimate childbearing and child-rearing costs. Kuziemko et al. (2018) also conclude that this increase in costs, and the inability of parents to realize this trend, helps to explain the overinvestment of would-be mothers in education.

Taken together, parents could be simultaneously overestimating their ability and underestimating the costs of parenting. Individuals who optimized on these biased estimates could plan to have a child while maintaining a dual-earning model consistent with progressive gender norms. Confronted with the actuality of the costs, and their innate ability, it becomes impossible for some couples to combine the professional careers of both members with caring activities. In that scenario, a member can retract from the labour market and focus solely on childcare (see Evertsson 2013, for an analysis of attitudes towards work among Swedish mothers). Empirically, mothers are more likely to take on the role of carers, even if *ex ante* this specialization is detrimental to the household (Berniell et al. 2021). The couple then faces a situation of cognitive dissonance, as described by Kranton (2016). Individuals simultaneously identify themselves as members of a modern, egalitarian couple while behaving according to traditional roles. This cognitive dissonance can be solved either by adjusting the behaviour, which can be impossible, or by adjusting their identity to reflect the current situation. According to this view, couples change their attitudes towards traditional gender norms to cope with their inability to combine the professional careers of both partners with caring functions. Empirically, Berrington et al. (2008) and Schober and Scott (2012) provide support for this thesis using data from the United Kingdom. Both articles demonstrate that women who changed their parenthood status and reduced the hours in labour market activities are more likely to display more traditional attitudes. Schober and Scott (2012) further demonstrate that the relation can be mediated by how caring responsibilities are shared between parents, informal networks and formal institutions.

The framework is, in principle, agnostic to the direction of changes. Couples with traditional views might have a lucky draw in their ability or observe much lower costs due to increased availability of care institutions. In those cases, secondary earners can decide to enter the labor market. If they succeed in making this transition, they might update their views on gender roles. Cunningham (2008) explores the importance of working for pay in forming gender norms. The article, however, focuses only on mothers. It does not distinguish between women who were more or less conservative before childbirth. As such, the observed changes can indicate a progressive return to the values professed before giving birth, as much as the adoption of a new identity.

The cognitive dissonance framework not only states that individuals might adjust their identities to fit their actions it also serves to pinpoint the instances where this is likely to occur. Kranton (2016) argues that the stability of an identity is related to the relative costs of maintaining against switching it. In the context of childbearing, one could predict that higher costs to the parents, for example, in the form of insufficient support from the state, increase the likelihood that parents accept more traditional gender norms (as in Schober and Scott 2012). Alternatively, one can focus on the costs of adopting a more conservative attitude. Arguably, it is easier for parents to switch towards more traditional attitudes if these attitudes are prevalent in a given society.

Cognitive dissonance is not the only possible channel linking childbearing and changes in attitudes. During pregnancy, would-be parents socialize with people in a similar situation, to the detriment of their previous social links. If this new reference group holds different (more traditional) values, then the increased exposure to this different set of norms and values could lead parents to reassess their own beliefs. In other words, changing the reference group increases the costs of maintaining the identity of a working parent becomes more costly. While the channel is different from that of cognitive dissonance described above, it is clear that the two explanations are complementary. Leaving employment for childcare also reduces the contact with career-oriented individuals.

3 Data: the Gender and Generations Survey

The Gender and Generation Survey is a database collected by research institutions in several European countries. The project began in the year 2000 and was initially coordinated by the United Nations Economic Commission for Europe. Since 2009, Netherlands Interdisciplinary Demographic Institute is responsible for coordination. Overall, twenty-four countries participated at least once in the survey, while 14 countries already collected two waves of data.[1] The majority of the countries participating in the survey are from Europe, mainly from Central and Eastern Europe: seven out of the 14 countries that collected two surveys belong to this region.

The first wave of the GGS was collected between 2003 (Italy and Netherlands) and 2010 (Poland) with most countries starting before 2007. The second wave, in turn, was collected three to four years after the first one. In most countries, the second wave was collected before 2010. The exceptions are Austria (2012) and Poland (2014). While the three-year gap could lead to greater attrition than other panels, it also allows observing more births.

Besides its international coverage and its longitudinal structure, GGS has a third advantage over other databases. It has a large sample size. On average, each country conducted almost 11000 surveys. The large sample size allows focusing on narrowly defined groups. This analysis focuses on the subsample of respondents who were aged 20 to 35 years old and childless at the time of the first survey. Restrictions based on age serve to zoom in on respondents who are likely to have a child in the period between the two waves.[2] In the sample, the probability of having a first child is below 5% for both respondents aged 17–20 years old and respondents older than 35 years old. Arguably, parents and non-parents are less comparable to each other outside of the selected age range. Among the older group, the population of parents-to-be might include couples with problems to conceive, and non-parents might be different in more accounts. For example, non-parents older than 40 years old could place a higher value on other personal achievements, e.g. they might be more career-oriented.

The GGS comprises two elements: a core questionnaire and an additional module. The core questionnaire is common to all countries and includes questions related to fertility history, previous and current relationships and labour market histories. The additional modules include, among others, the questions on attitudes towards traditional gender norms, which constitute the dependent variable in this study. Unlike the core module, implementing institutions had more leeway in deciding which questions to include in the survey. As a result, questions on attitudes can be missing for some countries and waves. For example, neither Italy nor the Netherlands asked about attitudes

[1] While a third wave is under development, there is still no information on when data will become available.

[2] The average year at first birth varies across countries but falls well within that range. According to Eurostat, the lowest average age at the time of first birth during the first wave of GGS corresponds to Bulgaria and is at 24.3 years old. On the opposite side, the highest value comes from France (28.5 years old).

in the first wave, so these countries were excluded from further analysis. In addition to these extreme cases, other countries excluded some questions from the second wave.

The dependent variables indicator variables on whether respondents agree with statements concerning traditional gender norms. Answers are converted into binary variables taking the value of one when respondents answer "Strongly agree" or "Agree" with a given statement.[3] Respondents who answer the question only in one wave are excluded from the analysis. The statements related to gender attitudes, particularly in connection to childbearing and labour market activities, are the following: "A woman has to have children in order to be fulfilled" (1); "A man has to have children in order to be fulfilled" (2); "Pre-school children are likely to suffer if their mother works" (3); "When jobs are scarce, men have more right to work than women" (4); "Looking after the family is just as fulfilling as having a paid job" (5); and "it is not good for the relationship if a woman earns more than their partner" (6). In all of them, agreeing indicates the adherence to more traditional gender norms. Besides these questions, I also include a variable on whether respondents agree with the statement: "When jobs are scarce, people with children have more right to work than childless" (7). While the statement does not have a clear gender connotation, it plays the role of a sanity check.[4]

These questions were already used as markers of adherence to gender stereotypes in previous literature. Seguino (2007) and Steinhauer (2018) use agreement with statements one, three, four and six, as indicators of traditional gender norms. Berrington et al. (2008), Schober and Scott (2012), Perales et al. (2019), Charles et al. (2018) also employ question three in their analysis of gender inequality. Kleven et al. (2019) uses a version of question three, "Women with children under school age should stay at home." Finally, Borrell-Porta et al. (2019) employs a question on family roles that is not available in GGS ("A husband's job is to earn money; a wife's job is to look after the home and family"). This question combines GGS questions five and six. This study includes two questions not explored by the earlier literature: questions two and six. The inclusion of question two is motivated by symmetry to question one. More importantly, it focuses on the role of the family in men's life. The inclusion of question six serves to incorporate the finding that couples suffer when women are the main breadwinner (see Bertrand et al. 2015).

Table 1 describes how different criteria affected sample size. Overall, the final sample consists of around 10% of the observations available in the first period. Both the criteria that observations are in the right age (column labelled *Young*) and that respondents should not have children at the time of the first survey (column *childless*) are binding. The importance of each restriction reflects the age structure of the country and the median age at first birth, respectively. In Germany, a country with a relatively older population and a high age at first birth, the first

[3] The remaining alternatives are "Neither agree, nor disagree", "Disagree" and "Strongly disagree."

[4] In wave 2, the Czech sample does not include question two; the Russian sample does not include questions four and seven; and the Hungarian sample does not include questions three to seven.

condition has a significant bite, while the second plays a minor role. By contrast, in Bulgaria or Russia, the relevance of both conditions is reversed. Besides restrictions based on age and prior fertility, some observations were excluded as respondents provided inconsistent answers across waves for the variables gender and year of birth. Except for Bulgaria and Georgia, excluding these observations had negligible effects on the sample size.

Table 1: Sample size

Country	All	In wave 2	& Young	& Childless	& attitude questions
Austria	5000	3918	1468	1042	952
Bulgaria	12858	9363	2316	1255	1239
Czechia	10006	9723	2211	1507	1482
France	10079	8643	1562	1097	1066
Georgia	10000	9845	2136	1216	1216
Germany	10017	3977	556	370	332
Hungary	13540	10641	2510	1653	1472
Lithuania	10036	9877	2003	1236	1210
Poland	19987	12952	1949	1091	1079
Russia	11261	10736	2164	1001	990
Total	112784	89675	18875	11468	11038

Notes: Table describes the final sample size in each country and the impact of subsequent restrictions.

3.1. Descriptive statistics

Table 2 presents sample descriptive statistics. The table focuses on demographic characteristics and labour market status. The columns indicate the wave and whether respondents become parents in between waves. Perhaps the most striking difference between groups corresponds to the proportion of women. The 10 pp. difference between groups indicates that women tend to be over-represented in the would-be parent group. This different sex composition also reflects the different ages at first birth. Given marriage patterns, one could expect fathers to be older than their partners at first birth.

Would-be parents differ from childless respondents in the probability that they are married and in the probability of changing their marital status between waves. At wave 1, would-be parents are more likely to be married than childless respondents, which is consistent with social expectations concerning family formation. However, as shown in the last column, these expectations are not always realized: As much as one-third of (already) parents are not married. This group includes people in various arrangements: single parents, parents in informal unions and divorcees.

The remaining differences between the two groups might be linked to age. Would-be parents are, on average, one year older at the time of the first survey. While in most cases a year difference matters little, among people in the selected year range, this additional year might be the difference between having completed tertiary studies and joined the labour market or lacking a tertiary degree and being inactive. Thus, one could expect childless respondents to have lower educational attainment and to be less active in the labour market, at least in wave 1. By wave 2, differences in educational attainment have reversed, and the two groups present similar employment patterns.

Table 2: Descriptive statistics

	Wave 1		Wave 2	
	No-parents	Parents	Non-parents	Parents
Age	25.56	26.72	28.91	30.14
Female	0.43	0.53	0.43	0.53
Married	0.06	0.31	0.14	0.67
Education				
Primary	0.08	0.08	0.08	0.08
Secondary	0.64	0.59	0.47	0.50
Tertiary	0.28	0.33	0.45	0.42
Labor market status				
Employed or Self-employed	0.60	0.76	0.66	0.69
Family workers	0.01	0.01	0.14	0.17
Unemployed	0.14	0.13	0.11	0.08
Inactive	0.25	0.10	0.10	0.06

Notes: Table describes the demographic characteristics of the main sample. Parents indicate whether respondents become parents in between waves, at the time of first wave they are not parents yet.

4 Empirical strategy

To identify the relationship between becoming a parent and attitudes towards traditional gender norms, I estimate regressions of the following form:

$$P(agrees)_{i,t} = \alpha + \beta_1 \text{Parents}_i + \beta_2 \text{After}_{i,t} + \beta_3 \text{After}_t \times \text{Parents}_i + \gamma' X_{i,1} + \epsilon_{i,t} \quad (1)$$

the dependent variable is whether respondents agree with the attitudes questions mentioned in the previous section. These variables have been re-coded from 5 levels (strongly agree, agree, neither agree nor disagree, disagree, strongly disagree) to dichotomous variables that take the value of one when the answer shows agreement (first two options) and zero otherwise. The coefficient β_1 shows differences between would-be parents and childless couples present *before* childbirth. Itis a measure of self-selection of people with more conservative norms into parenthood.[5] The coefficient β_2 measures differences between waves that are common to would-be parents and respondents who remained childless. These differences might reflect the changes in the public discourse introduced by the arrival of cohorts with more progressive views. The coefficient β_3 shows the effect of interest. It measures how would-be parents' attitudes towards traditional gender norms changed after childbirth.

Providing a causal interpretation to β_3 requires that would-be parents do not differ significantly from other respondents in terms of other characteristics. To make this assumption more plausible, the initial specification includes a vector of characteristics measured at the time of the first interview ($\gamma' X_{i,1}$). The characteristics include the variables presented in Table 2 (gender, age, marital status, education, labour market status), country of residence and year of the first survey. Given that in the second period these variables are potentially endogeneous to becoming parents, they cannot be included in current levels.[6] Instead, these variables are treated as time-invariant. Despite GGS richness, one can imagine some potential, time-invariant confounders for which the survey lacks information that could be driving fertility decisions and attitudes towards traditional norms, e.g. religious affiliation or preferences for large families. A second specification replaces the vector $X_{i,1}$ by individual fixed effects to address this concern. As a consequence of introducing individual fixed effects, the parameters β_1 and γ cannot be recovered.

A potential drawback of using fixed effects is that it does not fully account for the differences in characteristics between would-be parents and childless respondents. The coefficient β_3 still represents the causal impact of having children, but differences are computed over groups that might not be comparable. To address this challenge, I combine a

[5] This coefficient should be interpreted with a grain of salt. Would-be parents might already be expecting the first child at the time of wave one or could have started trying to have children.

[6] They are "bad" controls in the jargon of Angrist and Pischke (2009).

difference-in-difference approach with non-parametric matching on covariates (see Smith and Todd 2005). The estimator follows a two-step procedure. First, I derive weights that effectively balance the sample in the pre-treatment period. For this, I employ the Covariate Balancing Propensity Scores (CBPS) developed by (Imai and Ratkovic 2013).[7] While CBPS can be used to reweight both subpopulations, i.e. would-be parents and childless respondents, in the empirical specification, I compute weights only for the more numerous group, childless respondents. Given those weights and considering having children as a treatment, the estimates of β_3 represent the average treatment effect on the treated. The estimate measures the impact of having a child on parents' attitudes towards gender norms.

[7] In their contribution, Smith and Todd (2005) use kernel matching to derive weights. The decision to employ CBPS weights is grounded on the empirical findings on Smyk et al. (2018), where it is shown that CBPS outperforms other balancing methods.

5 Results

The section is organized into two subsections. The first part estimates the relationship between childbearing and attitudes towards traditional gender norms studying together individuals from all countries. Results from this section show that parents tend to agree more with traditional gender norms after childbirth, though the increment differs across items and gender of the parent. The second part explores cross-country variation. Specifically, it shows that the identified relations are driven by respondents living in countries that lacked institutionalized care and where women perform a larger share of household chores. These countries are primarily located in Central and Eastern Europe.

5.1. Difference-in-difference estimates

Table 3 presents the estimates from equation 1. For the sake of space, only estimates corresponding to the parameters β_1, β_2, and β_3 from Equation 1 are displayed.[8] Column headers indicate the different specifications: the first column contains only the parameters from the difference-in-differences, year and country fixed effects. The second column adds respondents characteristics measured during the first interview: age, marital status, education and labour market status. Column 3 includes individual fixed effects, and Column 4 includes weights to accommodate differences in the distribution of characteristics between would-be parents and childless respondents. Different headings indicate the attitudes used as dependent variables.

Table 3 presents two pieces of evidence that are relevant, one for men and one for women. First, in line with the prior discussion, women embrace more traditional gender norms after giving birth. Perhaps unsurprisingly, becoming a mother increases the probability of agreeing with the statement that having a child is necessary to be fulfilled by between 5 pp. and 6 pp. It also increases the probability of stating that men require a child to be fulfilled by 2 pp. to 3 pp., though these latter estimates are less precisely estimated. More importantly, becoming a mother increases the probability of agreeing with the statement that men should be prioritized when jobs are scarce by 3 pp. This effect represents a 15% increase when compared to the mean answer in the first survey.

[8] The full set of estimates are available upon request.

Table 3: Parenthood and attitudes

	Women				Men			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A woman has to have children in order to be fulfilled								
Parent	0.068 ***	0.063 ***			0.079 ***	0.065 ***		
	(0.01)	(0.02)			(0.02)	(0.02)		
After	–0.023 *	0.023	–0.023 *	–0.066	–0.001	–0.004	–0.001	–0.018
	(0.01)	(0.01)	(0.01)	(0.06)	(0.01)	(0.02)	(0.01)	(0.02)
Parent × After	0.052 ***	0.050 ***	0.051 ***	0.062 ***	0.014	0.016	0.014	0.023
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
A man has to have children in order to be fulfilled								
Parent	0.070 ***	0.061 ***			0.079 ***	0.065 ***		
	(0.02)	(0.02)			(0.02)	(0.02)		
After	–0.021	0.016	–0.020	–0.057	–0.023	–0.011	–0.023	–0.033
	(0.01)	(0.01)	(0.01)	(0.04)	(0.01)	(0.02)	(0.01)	(0.02)
Parent × After	0.029	0.029	0.029	0.032	0.040 **	0.042 **	0.040 **	0.055 **
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
A pre-school child is likely to suffer if his/her mother works								
Parent	0.020	–0.004			0.037 *	0.045 **		
	(0.02)	(0.02)			(0.02)	(0.02)		
After	–0.062 **	–0.054 **	–0.062 **	–0.005	–0.041	–0.049 *	–0.041 *	–0.107 ***
	(0.03)	(0.03)	(0.03)	(0.05)	(0.02)	(0.03)	(0.02)	(0.03)
Parent × After	0.028	0.026	0.026	0.036	0.049 *	0.046 *	0.052 **	0.078 **
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
When jobs scarce, men more right to job than women								
Parent	0.020	0.008			0.036 **	0.036 **		
	(0.01)	(0.01)			(0.02)	(0.02)		
After	–0.026	–0.027	–0.026	–0.086 **	–0.044 **	–0.034	–0.044 **	–0.071 ***
	(0.02)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)	(0.03)
Parent × After	0.031 *	0.031 *	0.030 *	0.038 *	0.002	0.007	0.003	0.022
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
If woman earns more than partner, not good for relationship								
Parent	–0.018	–0.018			0.003	0.009		
	(0.01)	(0.02)			(0.02)	(0.02)		
After	–0.060 ***	–0.061 ***	–0.060 ***	–0.050	–0.031 *	–0.028	–0.031	–0.005
	(0.02)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.02)	(0.04)
Parent × After	0.006	0.005	0.005	–0.009	–0.020	–0.024	–0.021	–0.041 *
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Looking after the home/family is just as fulfilling as working for pay								
Parent	0.063 ***	0.051 **			0.009	0.002		
	(0.02)	(0.02)			(0.02)	(0.02)		
After	–0.032	–0.015	–0.033	0.108 **	–0.023	–0.023	–0.023	–0.057
	(0.03)	(0.03)	(0.03)	(0.05)	(0.02)	(0.03)	(0.02)	(0.04)
Parent × After	0.026	0.028	0.028	0.032	0.041	0.039	0.041	0.028
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
When jobs scarce, people with children more right to job than childless								
Parent	0.050 ***	0.040 **			0.037 *	0.045 **		
	(0.02)	(0.02)			(0.02)	(0.02)		
After	–0.055 **	–0.028	–0.055 **	–0.035	–0.064 ***	–0.046 *	–0.064 ***	–0.089 ***
	(0.03)	(0.03)	(0.02)	(0.06)	(0.02)	(0.02)	(0.02)	(0.03)
Parent × After	0.078 ***	0.079 ***	0.079 ***	0.082 ***	0.054 **	0.062 **	0.054 **	0.056 **
	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.03)

Notes: Table presents estimates from equation 1, where the dependent variable indicates whether the respondent agrees or strongly agrees with the statements. Columns (1) and (5) present estimates with only country and year fixed effects. Columns (2) and (6) present estimates with additional demographic characteristics (age, marital status on wave 1, education on wave 1 and labor market status on wave 1). Columns (3) and (7) use a fixed effect estimator. Columns (4) and (8) present a difference-in-difference matching approach based on Smith and Todd (2005). In all specifications only observations with valid answers on both periods are used. Robust standard errors in parentheses. *, **, *** indicate that p-values were smaller than .10, .05 and .01.

There is a caveat with the results, however. First, in the question concerning relative earnings in the household, I fail to reject the null of no differences: Women are not more conservative in general, only when it comes to access to jobs. On the other hand, the next question on jobs, whether parents should be prioritized over childless individuals when jobs are scarce, completes the picture. Becoming a parent increases the probability of agreeing with that statement by as much as 4 pp. (a 10% increase with respect to pre-child birth levels). The coefficients on these two questions suggest that women might have interpreted the question on prioritizing men over women when jobs are scarce not as a comparison between abstract individuals but as a comparison between men who are parents, and single, childless women. This interpretation implies that women have internalized the division of roles inside the household, where men are more likely to be the sole (or the primary) breadwinner in the household.

Second, estimates of the effect of childbearing on the sample of men also indicate a change towards displaying more agreement with traditional gender roles. Similar to mothers, fathers are more likely to agree with the statement that parents should be prioritized when job offers are limited. They are also more likely to state that having a child provides some sense of fulfillment (and point estimates are remarkably similar to those obtained for women). The most striking difference between men and women concerns the statement on whether pre-school children suffer when their mothers work. Becoming a parent increases the probability of agreeing with the statement by as much as 7 pp. in the case of men, but has no discernible impact on women. Men also appear to increase their support for the statement that being a housemaker is just as fulfilling as working for pay, though coefficients are not precisely estimated. In both cases, men adhere to more traditional gender norms following childbirth.

To some extent, these results challenge those obtained by Borrell-Porta et al. (2019) for the United Kingdom. Estimates from 3 can be thought of as an average of the coefficients for parents of daughters and parents of sons. A back of the envelop calculation suggests that in order to obtain the 4 pp. change towards more progressive norms reported in their article, the change for boys should be twice as large and in the opposite direction. One potential explanation for the discrepancy stems from different time horizons. In Borrell-Porta et al. (2019), fathers might have older (and more numerous) children than in our sample.[9] If parents revise their attitudes towards traditional gender norms from witnessing the difficulties faced by their children, then differences in the first years of life might not inform of that experience.

[9] Since the sample contains respondents who were childless at the time of the first wave, and since waves are between three and four years apart, the oldest children in our sample cannot be older than four.

Table 4: Country characteristics and adoption of traditional gender norms

	CEE countries		Low childcare		High chores		Differentiation	
	Y	N	Y	N	Y	N	Y	N
Women								
Woman needs a child ...	0.065 ***	0.013	0.077 ***	0.029	0.062 ***	0.039	0.104 ***	0.021
	(0.00)	(0.67)	(0.01)	(0.17)	(0.01)	(0.13)	(0.00)	(0.32)
Man needs a child ...	0.035	0.001	0.076 **	–0.013	0.028	0.023	0.116 ***	–0.024
	(0.15)	(0.97)	(0.01)	(0.59)	(0.33)	(0.37)	(0.00)	(0.31)
Child suffers ...	0.058 *	–0.032	0.056	–0.013	0.069 *	–0.007	0.069 *	–0.007
	(0.07)	(0.32)	(0.11)	(0.66)	(0.08)	(0.81)	(0.08)	(0.81)
Job priority: men	0.039	0.007	0.039	0.007	0.050	0.017	0.057	0.010
	(0.14)	(0.66)	(0.14)	(0.66)	(0.21)	(0.31)	(0.11)	(0.56)
Woman earns more ...	0.007	–0.003	–0.012	0.019	0.049	–0.025	0.038	–0.022
	(0.80)	(0.91)	(0.68)	(0.41)	(0.14)	(0.25)	(0.23)	(0.31)
Being a housemaker ...	0.044	–0.005	0.044	0.005	0.070 *	0.000	0.076 **	–0.012
	(0.16)	(0.89)	(0.20)	(0.88)	(0.08)	(0.99)	(0.05)	(0.69)
Job priority: parents	0.088 ***	0.071 **	0.088 ***	0.071 **	0.096 **	0.075 ***	0.092 **	0.077 ***
	(0.01)	(0.04)	(0.01)	(0.04)	(0.03)	(0.01)	(0.02)	(0.01)
Men								
Woman needs a child ...	0.028	–0.027	0.051 *	–0.020	0.023	0.004	0.050 *	–0.011
	(0.21)	(0.51)	(0.07)	(0.46)	(0.34)	(0.91)	(0.08)	(0.70)
Man needs a child ...	0.050 **	0.015	0.067 **	0.019	0.028	0.064 *	0.038	0.047 *
	(0.03)	(0.71)	(0.02)	(0.48)	(0.24)	(0.06)	(0.20)	(0.08)
Child suffers ...	0.097 ***	–0.059	0.107 ***	–0.037	0.091 ***	0.007	0.091 ***	0.007
	(0.00)	(0.20)	(0.00)	(0.36)	(0.01)	(0.85)	(0.01)	(0.85)
Job priority: men	0.008	–0.023	0.008	–0.023	0.023	–0.021	0.034	–0.039
	(0.78)	(0.44)	(0.78)	(0.44)	(0.54)	(0.45)	(0.32)	(0.16)
Woman earns more ...	–0.014	–0.045 *	–0.018	–0.030	–0.010	–0.035 *	–0.022	–0.023
	(0.59)	(0.06)	(0.52)	(0.23)	(0.77)	(0.08)	(0.50)	(0.28)
Being a housemaker ...	0.052 *	–0.007	0.061 *	–0.009	0.065 *	0.006	0.060 *	0.006
	(0.09)	(0.89)	(0.06)	(0.83)	(0.08)	(0.86)	(0.09)	(0.87)
Job priority: parents	0.055 *	0.044	0.055 *	0.044	0.061 *	0.044	0.069 **	0.033
	(0.07)	(0.31)	(0.07)	(0.31)	(0.10)	(0.20)	(0.05)	(0.35)

Notes: Table presents estimates of β_3 from equation 1, where the dependent variable indicates whether the respondent agrees or strongly agrees with the statements. Estimates were obtained using covariate balancing weights and respondent fixed effects. All regression include year fixed effects as well. Columns identify country groups over which the parameters are estimated. *CEE* indicates Central and Eastern European countries; *Low childcare* indicates countries where the percentage of households using institutionalized child care is below country median; *High chores* indicates countries where women's average share of household activities is above country median; *Differentiation* indicates whether a country is above the country median for agreement with the statement that "Men make better political leaders than women." Robust standard errors in parentheses. *, **, *** indicate that p-values were smaller than .10, .05 and .01.

5.2. What stands behind these differences

One could expect that changes in the attitudes towards gender norms will be more frequent in specific environments. Using GGS data, it is possible to test for cross-country heterogeneity. The results from different country splits are shown in Table 4. The first distinction is between Central and Eastern European (CEE) countries and Western European countries. While CEE countries had much higher female labor force participation during the Soviet era, the transition towards a market economy led to a substantial deterioration of women's position in the labor market and the re-emergence of traditional attitudes. This re-emergence is visible in GGS data as well. The first two columns of Table 4 demonstrate that

the results shown in the main table are driven by women (and men) living in CEE countries. In these countries, women are more likely to increase their agreement with traditional gender norms, such as having a child is a condition for women's (and to a lesser extent men's) fulfillment or that children suffer when mothers work. Women in CEE countries are also more likely to increase their support for prioritizing men when jobs are scarce, with point estimates somehow larger than in Table 3. However, smaller sample sizes prevent reaching p-values smaller than .10. Consequently, these estimates should be treated with greater caution.

Among men, a similar pattern emerges. Men in CEE countries are more likely to increase their agreement with traditional gender norms after childbirth. When compared to their pre-birth answers, men are 10 pp. more likely to state that pre-school children suffer if their mother works and up to 5 pp. more likely to claim that being a housemaker is as fulfilling as working for pay.[10] At the same time, in Western economies, all point estimates for men are lower and often negative, though not statistically significant. These estimates suggest the plausibility that the 'mighty girl' effect discussed by Borrell-Porta et al. (2019) is specific to developed countries.[11]

Estimates in the last four columns, representing two different separating variables, are identical for the dependent variable: "child suffers...", but not for other variables. This is because fewer countries included this question in their surveys, which lead to an identical country split for these variables.

The remaining columns in Table 4 explore other, often overlapping, country characteristics that could help to explain the differential adoption of more traditional gender norms following childbirth. The first dimension considered in Table 4 is access to institutionalized care. Information on childcare arrangements comes from GGS survey. The survey asks parents how often they rely on institutionalized care for their children under school age. I use answers from respondents who were already parents in the first wave to distinguish between countries with coverage above and below the median. Notice that these observations are not included in any regression, and hence their decisions are not endogenous to the changes in attitudes of would-be parents. Coefficients from this exercise tell a similar story to the distinction between CEE and WE countries. Respondents from countries with below-median usage of institutionalized care facilities are more likely to agree with traditional gender norms following childbirth. Of course, over the long run, the use of care facilities could be a response to changes in norms as well: parents adopting more traditional gender norms might be more reluctant to leave their children at care institutions. Moreover, if authorities anticipate these changes, they might be less likely to provide childcare. The lack of care facilities might be a self-reinforcing equilibrium.

[10] Given the low participation of men in household chores, the agreement with the last statement could be interpreted as extrapolation on their partners' feelings.

[11] The GGS sample used in these estimations includes Austria, France and Germany. Splitting the results by country reveals that the 'mighty girl' effect is stronger in France than in German-speaking countries. This result is consistent with the difference in adherence to gender norms between French- and German-speaking Swiss cantons discussed in Steinhauer (2018).

The second dimension corresponds to the share of household activities performed (primarily or only) by women (as opposed to being performed by men or outsourced) in couples. This measure indicates the prevalence of stereotypical gender roles (see Doepke and Kindermann 2019, for a similar interpretation). As before, I split the sample into countries with above and below median values for the share of women performing household chores. As an alternative measure of differentiation of gender roles, I use the percentage of respondents agreeing with the statement that "Overall men make better political leaders than women." This statement has the advantage of showing a distinction of gender roles in the public sphere without a direct reference to childbearing. One would expect that it is easier to adopt traditional gender norms after childbirth in countries where people frequently adhere to those statements. In both cases, the intuition is confirmed by the data. Countries where women are responsible for a larger share of household chores, and countries where there is a more apparent distinction of gender roles, are those in which men and women are more likely to agree with traditional gender norms following childbirth.

5.3. Do children affect attitudes unrelated to gender roles?

This section explores whether childbirth leads to parents changing attitudes on issues unrelated to gender roles in labor markets or the importance of family for self-fulfillment. While the analysis does not directly support the results from the previous section, it does provide some indirect evidence. Failing to reject the null indicates that the changes in attitudes identified in the previous section are not the product of some form of general inconsistency in the answers by parents but rather reflect a specific relationship between gender norms and childbirth. In particular, the analysis of pseudo-outcomes considers the following variables: (1) "On overall, men make better political leaders than women", (2) "It is all right for an unmarried couple to live together," (3) "It is all right for a couple with an unhappy marriage to get a divorce even if they have children", (4) "Homosexual couples should have the same rights as heterosexual couples do," and (5) "most people can be trusted". This selection reflects a combination of statements concerning gender roles in the society ("1"), modern values ("2" to "4") and general trust. Importantly, becoming a parent does not convey an informational shock, so one would expect differences to be small and statistically not significant. Table 5 presents the estimates of β_3 from equation 1.

In most cases, estimates in Table 5 are closer to zero than estimates from the main regression and not statistically significant. There is an exception, however. Women tend to agree more with the statement that unmarried couples can live together after childbirth. This result runs against the intuition that childbearing increases the support for traditional norms in every domain. Following on the previous tables, only in the division of roles within the household, men and women adopt attitudes consistent with traditional roles.

Table 5: Childbearing and attitudes towards other norms

	Women (1)	Men (2)
On the whole, men make better political leaders than women	–0.006	–0.008
	(0.02)	(0.03)
It is all right for an unmarried couple to live together	0.054 ***	–0.018
	(0.02)	(0.02)
It's all right for a couple to divorce even if they have children	0.013	–0.003
	(0.02)	(0.02)
Homosexual couples should have same rights as heterosexual	0.003	–0.016
	(0.02)	(0.02)
Opinion about fairness of people	–0.009	0.014
	(0.04)	(0.04)

Notes: Table presents estimates of β_3 from Equation 1, where the dependent variable indicates whether the respondent agrees or strongly agrees with the statements in the left column. Estimates were obtained using covariate balancing weights. All regression include individual and year fixed effects. Columns distinguish between female and male respondents. Robust standard errors in parentheses. *, **, *** indicate that p-values were smaller than .10, .05 and .01.

5.4. What else changed during the period?

An alternative indirect test consists of analyzing whether other life events can deliver similar effects as childbearing. A candidate event is completing tertiary education. It is possible that completing tertiary education and entering the labour market could have shifted attitudes towards more progressive gender roles. As shown in Table 2 the share of respondents with tertiary degrees increase substantially in both groups, though the change was more considerable among those who did not become parents. Notice that if completing tertiary studies (and entering the labour market) is consistent with the expression of more progressive gender norms, differences shown in Table 3 could be driven entirely by the "control" group.

A second candidate event is getting married. As shown in Table 2, the share of married couples among would-be parents almost doubled between the two periods. If marriage is a first step towards forming a family, estimates from Table 3 could actually capture the effect of becoming a couple, regardless of whether or not they become parents. To explore this relationship, I re-estimate Equation 1 using marriage as the treatment effect. The regression is run independently on the samples of respondents who will become parents on wave two and those who remain childless. Among these groups, the effect on childless respondents is less likely to be biased than the effect among would-be parents. Among the latter, one cannot rule out the existence of "shotgun marriages," which would inflate the value of the estimated interaction coefficients.

Table 6 displays the coefficients on the interaction (β_3 on equation 1) for the three alternative "treatment" variables: completing education, marriage among childless respondents, marriage

among would-be parents. These regressions include individual fixed effects and are reweighted to balance other personal characteristics between the control and treatment groups. Estimates from Table 6 point to the lack of a link between these life events and attitudes towards gender norms. While some point estimates are large, they are also very noisy, resulting in a lack of statistical significance.[12] Only a few coefficients were statistically significant, and in this case, the 'treatment' moves the needle in the opposite direction. Marriage was related to less agreement with traditional norms.

Table 6: Effects of other life-events on attitudes towards gender norms

	Education		Marital status – Childless		Marital status – Parents	
	Women	Men	Women	Men	Women	Men
Woman needs a child ...	0.030	0.011	0.003	0.026	–0.009	–0.096 **
	(0.39)	(0.76)	(0.93)	–0.46	(0.81)	(0.05)
Man needs a child ...	0.008	0.019	–0.018	0.056	0.062	–0.068
	(0.85)	(0.58)	(0.57)	–0.11	(0.17)	(0.17)
Child suffers ...	–0.032	0.037	0.001	0.038	0.032	0.088
	(0.56)	(0.43)	(0.97)	–0.46	(0.59)	(0.14)
Job priority: men	–0.008	–0.047	0.034	0.001	0.070	–0.025
	(0.85)	(0.22)	(0.28)	–0.97	(0.11)	(0.68)
Woman earns more ...	0.009	–0.046	–0.060 *	–0.073 *	–0.063	0.056
	(0.81)	(0.21)	(0.06)	–0.07	(0.24)	(0.35)
Being a housemaker ...	0.068	0.014	–0.011	–0.032	–0.026	–0.033
	(0.21)	(0.76)	(0.80)	–0.5	(0.65)	(0.67)
Job priority: parents	0.062	–0.086 *	0.005	–0.009	–0.068	0.042
	(0.25)	(0.06)	(0.91)	–0.84	(0.31)	(0.52)

Notes: Table presents estimates of β_3 from equation 1, where the dependent variable indicates whether the respondent agrees or strongly agrees with the statements in the left column. Estimates were obtained using covariate balancing weights. All regression include individual and year fixed effects. Columns distinguish between female and male respondents and between would-be parents and childless individuals (4 groups). Robust standard errors in parentheses. *, **, *** indicate that p-values were smaller than .10, .05 and .01.

[12] By necessity, samples were smaller than those used in Table 3. Large coefficients and standard errors could be a product of data limitations.

6 Conclusions

The article documents how attitudes towards traditional gender norms change after childbirth. Given the prominent role that norms play in defining the scope of gender inequality, understanding their relation to life-cycle events is of uttermost importance. The effects of childbearing are identified using the longitudinal dimension of the data and a difference-in-difference approach. Estimates indicate that men and women agree more with statements concerning the importance of children to be fulfilled. For example, after childbirth, women tend to agree more with statements that men should be prioritized in the labour market. Men tend to agree more with the statement that small children suffer when the mother works. In both cases, respondents show increased support for a traditional division of labour and household activities.

The analysis further showed that the relationship between childbearing and changes in attitudes varies across institutional settings and population groups. Respondents from Central and Eastern European countries experience larger attitudes changes than respondents from Western European countries. Coincidentally, CEE countries are characterized by comparatively low availability of care institutions and a more pronounced distinction of gender roles. To zoom in on this point estimates also show that countries where women perform a larger share of household duties are similarly associated with greater increases in support towards traditional gender attitudes.

In the article, these findings are interpreted through the lens of cognitive dissonance. Being unable to combine work and care, individuals respond by specializing following traditional patterns. The specialization is at odds with the beliefs held, creating unease, which can be solved by updating beliefs on what are the correct gender norms. While other explanations are consistent with part of the findings, they are incomplete. For example, it could be that would-be parents fail to anticipate the utility increase from childbearing. Having received a much higher utility than expected, parents might switch towards traditional gender roles. Such development could explain why parents increase their agreement on having children to be fulfilled. However, it would not be sufficient to explain changes in attitudes towards the traditional segregation of household chores.

The article interprets these findings as indicative of the importance of care institutions and their indirect effects on gender inequality. These institutions can better enable careers of both members in the couple, and prevent the switch towards more conservative norms. Evidence on this point is correlational. Although it is tempting to interpret access to formal care as standing behind changes in attitudes, it could also be that the lack of further development of care institutions results from the acceptance of traditional gender roles among parents. Of course both mechanisms could reinforce each other in the form of a vicious circle: the lack of infrastructure leads to parents adhering to more traditional norms, further reducing the support for investment in infrastructure.

Disentangling the role of institutional constraints on change in preferences might not be possible with the data at hand. Future research employing more granular data could identify how attitudes towards traditional norms evolve with the ageing of the children and how institutional arrangements mediate this relationship. In particular, one should analyze the role of parental leaves, working time flexibility provisions and childcare availability.

References

Angrist, J. D. and Pischke, J.-S.: 2009, Mostly harmless econometrics, Princeton Univers. Press.

Baxter, J., Buchler, S., Perales, F. and Western, M.: 2014, A life-changing event: First births and men's and women's attitudes to mothering and gender divisions of labor, Social Forces 93(3), 989–1014.

Berniell, M. I., Berniell, L., la Mata, D. D., Edo, M., Fawaz, Y., Machado, M. P. and Marchionni, M.: 2021, Motherhood and the allocation of talent, Technical Report 14491, IZA Institute of Labor Economics.

Berrington, A., Hu, Y., Smith, P. W. F. and Sturgis, P.: 2008, A graphical chain model for reciprocal relationships between women's gender role attitudes and labour force participation, Journal of the Royal Statistical Society: Series A (Statistics in Society) 171(1), 89–108.

Bertrand, M., Kamenica, E. and Pan, J.: 2015, Gender identity and relative income within households, The Quarterly Journal of Economics 130(2), 571–614.

Borrell-Porta, M., Costa-Font, J. and Philipp, J.: 2019, The 'mighty girl' effect: Does parenting daughters alter attitudes towards gender norms?, Oxford Economic Papers 71(1), 25–46.

Brooks, C. and Bolzendahl, C.: 2004, The transformation of US gender role attitudes: cohort replacement, social-structural change, and ideological learning, Social Science Research 33(1), 106–133.

Charles, K. K., Guryan, J. and Pan, J.: 2018, The effects of sexism on American women: The role of norms vs. discrimination, Technical report.

Ciccia, R. and Verloo, M.: 2012, Parental leave regulations and the persistence of the male breadwinner model: Using fuzzy-set ideal type analysis to assess gender equality in an enlarged Europe, Journal of European Social Policy 22(5), 507–528.

Conley, D. and Rauscher, E.: 2013, The effect of daughters on partisanship and social attitudes toward women, Sociological Forum 28(4), 700–718.

Cunningham, M.: 2008, Changing attitudes toward the male breadwinner, female homemaker family model: Influences of women's employment and education over the life course, Social Forces 87(1), 299–323.

Danzer, N., Huebener, M., Pape, A., Spiess, C. K., Siegel, N. A. and Wagner, G. G.: 2021, Cracking under pressure? gender role attitudes toward maternal employment in times of a pandemic, Technical Report 14471, IZA Institute of Labor Economics.

Doepke, M. and Kindermann, F.: 2019, Bargaining over babies: Theory, evidence, and policy implications, American Economic Review 109(9), 3264–3306.

Doepke, M. and Zilibotti, F.: 2019, The economic roots of helicopter parenting, Phi Delta Kappan 100(7), 22–27.

Evertsson, M.: 2013, The importance of work, Acta Sociologica 56(2), 139–153.

Fernández, R. and Fogli, A.: 2009, Culture: An empirical investigation of beliefs, work, and fertility, American Economic Journal: Macroeconomics 1(1), 146–177.

Imai, K. and Ratkovic, M.: 2013, Covariate balancing propensity score, Journal of the Royal Statistical Society: Series B (Statistical Methodology) 76(1), 243–263.

Kleven, H., Landais, C., Posch, J., Steinhauer, A. and Zweimüller, J.: 2019, Child penalties across countries: Evidence and explanations, Working Paper 25524, National Bureau of Economic Research.

Kranton, R. E.: 2016, Identity economics 2016: Where do social distinctions and norms come from?, American Economic Review 106(5), 405–09.

Kuziemko, I., Pan, J., Shen, J. and Washington, E.: 2018, The mommy effect: Do women anticipate the employment effects of motherhood?, Technical report.

Matysiak, A. and Węziak-Białowolska, D.: 2016, Country-Specific Conditions for Work and Family Reconciliation: An Attempt at Quantification, European Journal of Population 32(4), 475–510.

Perales, F., Lersch, P. M. and Baxter, J.: 2019, Birth cohort, ageing and gender ideology: Lessons from British panel data, Social Science Research 79, 85–100.

Schober, P. and Scott, J.: 2012, Maternal employment and gender role attitudes: dissonance among British men and women in the transition to parenthood, Work, Employment and Society 26(3), 514–530.

Seguino, S.: 2007, PlusÇa change? Evidence on global trends in gender norms and stereotypes, Feminist Economics 13(2), 1–28.

Smith, J. A. and Todd, P. E.: 2005, Does matching overcome LaLonde's critique of nonexperimental estimators?, Journal of Econometrics 125(1–2), 305–353.

Smyk, M., Tyrowicz, J. and van der Velde, L.: 2018, A cautionary note on the reliability of the online survey data, Sociological Methods & Research p. 004912411878253.

Steinhauer, A.: 2018, Working moms, childlessness, and female identity, CEPR Discussion Papers 12929, C.E.P.R. Discussion Papers.

Uunk, W.: 2015, Does the cultural context matter? the effect of a country's gender-role attitudes on female labor supply, European Societies 17(2), 176–198.