Culture of Origin, Parenting, and Household Labor Supply*

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Abstract

This paper analyzes how culture affects parental engagement in child-rearing activities and household labor supply. Using World Value Survey data, we construct a country-specific measure of parenting preferences that reflects parents' engagement in children's activities. We link this measure to parents' behaviors in Australia, and find that parents from more engaged cultures are more likely to be warm and assertive, and privilege active time with kids over general care. These results are robust to a large set of sensitivity analyses, which account for omitted variable bias and selection. Parents from engaged cultures experience no conflict between parenting and work, and spend more active time with children during weekends. Parental engagement also supports a more gender-equal task allocations in the household, which promotes employment of mothers.

JEL Classification: D10, J13, J15, J22, Z10

Keywords: culture, parental investments, parenting, labor supply

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1 Introduction

In the last half-century, major changes in the way men and women spend their time have had large economic and social implications in developed countries. Women's time in paid work has increased substantially, as has the time parents, particularly fathers, spend with children (Bianchi et al., 2006). The long-term effects of this process are not restricted to the labor supply, productivity and gender roles inside the household, but also involve the quality of children raised by families. It is well known that parenting inputs are essential for child development. The non-cognitive and cognitive abilities children acquire, particularly during the early years, are going to shape their labor and social outcomes in adulthood, thus affecting the long term prosperity of our society (Heckman et al., 2006; Heckman, 2008; Almond and Currie, 2011; Heckman and Mosso, 2014).

A well-established literature has analyzed the micro-level determinants of parental investments, and their contribution to children's development. In developed countries, the time parents spend with their children seems a more essential input than money to child development, and presents a strong positive educational gradient. Rather than the total time spent together, what matter most are the activities parents perform with their children. Educational activities stand out as the most important determinants of cognitive skills, while the quality of parent–child interactions are most relevant for noncognitive skill development. Maternal time seems more important than the father's time during early childhood, with evidence of some persistency in the effects. Indeed, time constrained working mothers are likely to trade quantity of time for better quality of time spent with their children (Guryan et al., 2008; Fiorini and Keane, 2014; Hsin and Felfe, 2014; Agostinelli and Sorrenti, 2018; Del Boca et al., 2014; Brilli, 2022; Del Bono et al., 2016).

To date, we do not know much about factors that determine the time allocation decisions inside the household, and in particular the role played by individual preferences for parenting activities. Some papers investigate individual preferences for family amenities and employment. They show that the relative intensity of such preferences shapes individual labor supply decisions and the allocation of tasks within the household in different

ways for men and women. They also uncover that such preferences are deeply rooted in cultural factors (see, e.g., Fernández, 2007; Fernández and Fogli, 2009; Alesina and Giuliano, 2010; Moriconi and Peri, 2019; Blau et al., 2020).[1] Individual preferences, as well as the cultural factors that determine them, seem likely to play a key role for parenting behavior: individual attitudes and beliefs that are transmitted across generations can have important effects on the amount and quality of time spent by parents with children. These effects matter for time use considerations, the allocation of parenting tasks, and ultimately, the labor supply of the household.

This paper analyzes how culture, through preferences, determines the engagement of parents in child-rearing activities, and the labor supply of the household. We construct a culture-specific dimension of parenting preferences that is different across countries of origin. As this is likely to change slowly over time, we consider it a predetermined preference parameter. We then analyze whether this country-specific component of preferences for parenting activities affects the actual engagement of first- and second-generation migrant parents into parenting. We use survey data from the Longitudinal Study of Australian Children (LSAC). This data allows us to consider, as parenting outcomes, the type of interactions of parents with their children, the time investment of parents in their children both in terms of the composition of parenting tasks, and the allocation of parenting time between weekdays and weekend. Such time investment analysis carries over to implications for allocation of parenting versus labor supply in the household. Thus, in the final part of the paper we shift the analysis from the individual parent to the household. In this way we assess how culture of origin in migrant families affects the distribution of parenting tasks and labor supply between the mother and the father.

Our research methodology relies largely on the epidemiological approach proposed by Fernández (2007), aimed at separating the effect of culture from that of economic and institutional incentives operating in the destination country of migrants (see Alesina and

[1] These studies adopt the widely acknowledged definition of culture by Fernández (2016), which stresses that cultural differences consist of "systematic variation in beliefs and preferences across time, space, or social groups". This definition takes a practitioner's approach and suggests that cultural effects, e.g., on individual behaviors or economic outcomes, can be better identified by exploiting cross-cultural variations in preferences and beliefs.

Giuliano, 2015 for a comprehensive discussion). We utilize individual-level data from the World Value Survey (WVS) to create an origin-specific indicator of parenting culture, which measures the inclination of parents from a particular country to actively engage with their children. To discern this cultural trait, we draw upon recent literature on parenting styles, and extract a predetermined country-specific preference trait for a direct involvement of parents in children's activities as the country fixed effect in regressions on selected WVS questions, conditional on the observable characteristics of all WVS respondents in surveyed countries. The main empirical analysis relates the country-of-origin indicator obtained in this way, with the individual parenting outcomes of migrant parents in Australia. We argue that after controlling for their own individual characteristics, those of their children, their family and the country of ancestry including origin-specific migration stocks, the coefficient of the country-specific indicator measures the effect of culture on parental decisions. This is because idiosyncratic individual preferences, which can be correlated with individual characteristics and with the choice of migration, do not affect the construction of the country-specific indicator of parenting culture. Throughout the paper, we discuss extensively the choice of the best country-specific measure in relation with the literature on parenting styles. In our preferred specification, we relate the country-specific trait to the emphasis parents place on obedience as a desirable quality in their child. While the value of obedience readily measures authoritarian parenting, we argue this is also a key ingredient of the intensive and helicopter parenting styles, which are characterized by a high involvement of parents into children's lives (Doepke and Zilibotti, 2017; Doepke et al., 2019; Agostinelli et al., 2023).

Our analysis reveals a novel cultural trait related to the engagement of parents in child rearing activities. We do not find any statistically or economically significant effect of parenting culture on total time spent with children. However, we uncover sizeable effects on parent-to-child interactions, the type of activity performed by the child with the parent, and the allocation of tasks within the household. First, we show that migrants from cultures that value obedience as a child quality are more likely not only to enact discipline with their child, but also to be affectionate and warm. To give an idea

of magnitudes of estimated effects, let us consider a three-standard deviation increase in origin-specific value of obedience, which is comparable to the distance between e.g. the French parenting culture (relatively engaged), and the Japanese culture (which features a much lower involvement of parents into children activities). Our main estimates suggest that, on average, someone with a French parenting background is about 9 percentage points more likely to be a warm parent, who is also able to set and enforce rules for their children, compared to an observationally equivalent parent with Japanese origins. Second, our results also suggest that parents from more engaged cultures tend to allocate their time investment away from unproductive general care to active time with the child (particularly playing activities). In quantitative terms, an increase in parental engagement equivalent to the distance between the French and the Japanese culture explains also a 12% difference in the ratio between active time (mostly dedicated to play) and general care. Based on evidence from the child development literature, such an effect could be beneficial to both cognitive and non-cognitive skills of children (see e.g. Fiorini and Keane, 2014; Hsin and Felfe, 2014). Finally, our results suggest that there is no major conflict between engagement in parenting activities and household labor supply. Parents from engaged cultures are more likely to redistribute parenting time from weekdays to weekends: on average, someone from a French parenting background has a 3.6 p.p. higher share of parental activities carried out during the weekend compared to someone with Japanese background. This is equivalent to about the 18% of the weekend share differential between a father and a mother, on average. Coming from an engaged parenting culture is also likely to induce a more gender egalitarian reallocation of parenting vs. labor supply tasks. We perform an extensive battery of sensitivity checks to reassure that our main results are not driven by omitted factors potentially correlated with parenting culture, selection and sorting of immigrants in Australia. We argue that all the effects just described are due to parenting culture only, considering individuals that are equivalent in any other observational dimension.

This paper provides three main contributions to the economics literature. First, it primarily contributes to the well-established literature on the micro-level determinants

of parental investments (Guryan et al., 2008; Hsin and Felfe, 2014; Agostinelli and Sorrenti, 2018; Brilli, 2022; Del Boca et al., 2014). This body of research builds on Becker's framework, which examines how individuals allocate time between market production and alternative uses of time (Becker, 1965). A general consensus has emerged that more educated parents tend to spend more time with their children compared to less educated ones, despite the higher opportunity cost associated with better labor market opportunities. Furthermore, studies, especially from the U.S., suggest there is no significant trade-off between employment and time spent with children, particularly for mothers. Employed mothers do not necessarily spend less quality time with their children than non-employed mothers, and fathers may compensate for maternal employment by increasing their involvement in activities that are more beneficial for child development. Our results add a complementary explanation, which passes through the reallocation of parenting time from weekdays to weekends. Interestingly, there are not studies in the literature that try to identify empirically the role of pure parenting preferences for time allocation choices. This is mainly due to a fundamental methodological constraint: since preferences are inherently reflected in individual decisions, it is difficult to design quasi-experimental strategies that can effectively isolate and identify the specific impact of preferences on time allocation choices. To overcome this issue, we implement the epidemiological approach widely used to analyze the effect of culture on e.g. female labor force participation and gender gaps (Fernández, 2007; Fernández and Fogli, 2009; Alesina and Giuliano, 2010; Blau et al., 2020. See Alesina and Giuliano, 2015 for a review). For this purpose, we leverage a highly detailed time use survey on Australian children and their families. Compared to similar datasets, such as ATUS, our data provides precise identifiers for the country of birth of the child, parents, and grandparents. This allows us to classify first-generation migrant parents as those who reside in Australia but were born abroad, and second-generation migrant parents as those born in Australia to parents (i.e., the children's grandparents) who were born outside Australia.[2] The Australian study case offers high external validity to such an analysis. The Australian population

[2]In contrast to "migrants", we define *native* parents as those who were born in Australia and whose parents (i.e., the child's grandparents) were also born in Australia.

has a very large share of immigrants,[3] with a composition by continent of origin, which is very similar to the average of OECD destinations (OECD, 2012). Our data includes a relatively large sample of first-generation and second-generation migrant parents from up to 29 countries of origin from all continents. This considerable cross-cultural variation interacts with the local parenting environment, which balances elements of interventionist and permissive parenting, very similar to the U.S. (Doepke et al., 2019). We exploit this variation to identify culturally transmitted parenting preferences as a determinant of the time allocation of migrant parents, conditional on all relevant individual and family characteristics.[4] To the best of our knowledge, this is the first paper to isolate an effect of culture on the way parents raise their children, and on household-level choices concerning time use and employment.[5]

Second, our results inform the debate regarding roles that parents choose to play in children choices. The psychological development literature had pointed out long ago the importance of preferences and attitudes for parental behavior in child rearing (Baumrind, 1967; Maccoby and Martin, 1983). More recently, Doepke and Zilibotti (2017) and Doepke et al. (2019) formalized a taxonomy of 'parenting styles'. These path-breaking studies in economics highlight remarkable cross-country differences in societal views regarding the role of parents in children choices, based on data from the World Value Survey. In some countries, parenting attitudes value (among other things) children's obedience. Such attitudes emphasize the engagement of parents to intervene in their children's choices. In other countries, societal views support more permissive styles, which value independence and autonomy of children, and require less effort from parents. These studies do not discuss explicitly the role of cultural factors. By measuring parenting preferences

[3]Data from the Australian Bureau of Statistics show that residents without Australian citizenship account for 12% of the Australian population. Spielvogel and Meghnagi (2018) shows that immigrants contributed to a 9.5% growth of the labor force between 2005 and 2015, which is the fourth-largest share in the OECD, after Switzerland, Luxembourg, and Ireland.

[4]Guryan et al. (2008) proposed parenting preferences for time spent with their children as a plausible explanation consistent with the positive educational gradient of parental time. However, they do not offer any evidence in favor (or against) this explanation relative to competing reasons. They mention these channels as an important task for future research.

[5]By using data from Australia, Cobb-Clark et al. (2019) show that parenting styles can be distinguished from time-intensive investment and respond to family socioeconomic status, however, they do not address the role of culture.

and outcomes among individuals living in their country of residence, cross-country differences in parenting styles are simultaneously determined by culture, local institutions, and economic incentives (notably the return to education and the level of inequality in the society). Our empirical approach enables us to isolate a cultural trait that relates to the value parents attach to obedience as a child quality, and associate it with the actual parenting choices by migrant parents in Australia. We uncover that an authoritarian cultural trait is associated with a higher engagement of parents into child-rearing activities, both in terms of the active time spent with children (preferably during the weekends), and in terms of high quality interactions with their child. By showing that an authoritarian parenting style is associated with warm parent-to-child interactions, and more active time, we corroborate the idea that authoritarian parenting covers many aspects of parental interventions, without necessarily having negative connotations (Agostinelli et al., 2023).

Third, our paper touches upon the recent literature that discusses the contribution of gender norms to time allocation and labor supply of parents (Moriconi and Rodriguez-Planas, 2021; Kleven, 2022; Jessen, 2022; Ichino et al., 2019; Blau et al., 2020). This literature shows that more progressive beliefs regarding the balanced roles of men and women in the family and the labor market favor a more egalitarian division of childcare and labor supply tasks within the couple, and reduce the motherhood penalty. We extend this discussion by exploring the role of parenting culture. In particular, our household-level analysis points out that an authoritarian parenting culture favors a more egalitarian allocation of tasks between parents, similar to more progressive gender norms. This effect passes through the channel provided by the country of origin of the mother, consistent with the view that mothers provide a better channel than fathers to cultural transmission (Alesina and Giuliano, 2015).

The paper is structured as follows. Section 2 presents a theoretical framework that rationalizes our research question and analysis and introduces some key issues for identification. Section 3 presents the econometric strategy and discusses the potential threats to identification. Section 4 describes the individual-level dataset used for the analysis.

Section 5 presents the main results on parental investments, while Section 6 extends the analysis to consider implications at the household level. Finally, Section 7 concludes.

2 Theoretical Framework

In this section, we present a framework that provides a theoretical foundation for our empirical analysis and prompts an interpretation of the estimated coefficients and a discussion of identification and possible biases. The model describes an agent time allocation decision between labor and nonlabor activities in the spirit of Becker (1965). In particular, we consider a specific type of nonlabor activity, i.e., parenting. The model allows us to obtain an equilibrium prediction about the time investment in parenting activities of an individual from culture of origin o residing in the representative country of destination r.

2.1 Preferences over parenting activities

Consider an individual parent i of culture o, which denotes her country of origin, working in the representative country of residence r. For expositional simplicity, we assume that each individual splits her time endowment (which we standardize to one for convenience) between parenting activities with measure h_{io} and supply of labor with measure $(1-h_{io})$.[6] The subscript "io" makes explicit that the time allocation choice between labor and parenting by the individual depends on individual characteristics and on the country of origin o. The time allocation is made to maximize a quasilinear utility function, which depends positively on consumption and time spent in parenting activities, as follows:

$$U_{io} = c_{io} + \theta_{io} v(h_{io}) \tag{1}$$

where c_{io} is individual consumption and $v(h_{io})$ is the utility that the parent obtains

[6] In practice, we abstract from leisure in the model. This is consistent with evidence from the U.S. that sees a constant rise in working and parenting hours starting in the 1960s (Bianchi et al., 2006). This is also consistent with what we observe in our data, where, on average, parenting time and work (including housework) already account for 11.5 hours a day.

from time spent in parenting activities h_{io}.[7] We assume that $v(.)$ is strictly concave, and its shape is common to all individuals. Parameter θ_{io} captures the value attached by the individual to the engagement in parenting activities. A larger θ_{io} implies that an individual experiences higher utility from investing his or her own time in children compared to work.

2.1.1 Cultural and Individual Preferences and the Selection of Migrants

The value of parenting θ_{io} can be thought of as random and distributed across the population of the country of origin o, whose realization is specific to each individual i. We assume that the culture-specific component of the variable is the average preference in country of origin o, common to all individuals from that culture of origin. Namely, while there is variation among individuals in their culturally determined preference for parenting activities, there is an average level determined by norms, traditions and culture in a country. For simplicity, we assume that the parenting parameter is log linear in its average cultural component and in its idiosyncratic component, so that for a generic individual born in country o, it can be written as:

$$\ln \theta_{io} = \ln(\overline{\theta}_o) + \ln(\theta_i). \tag{2}$$

Our focus is on identifying the impact of the "culturally determined" component of parental engagement, $\ln(\overline{\theta}_o)$. Featuring Moriconi and Peri (2019), there are two main advantages of focusing on this origin-specific component of parenting preferences compared to $\ln \theta_{io}$. First, the idiosyncratic component, $\ln(\theta_i)$, varies across individuals and, once the culture-specific average, $\ln(\overline{\theta}_o)$, is subtracted, this component has a zero mean across the population in the country of origin. The idiosyncratic component may not be orthogonal to other characteristics of the individual (such as her productivity, e_i, which we will introduce below). This implies that part of the correlation between $\ln \theta_{io}$ and in-

[7] As the parenting dimension considered here is the time spent by the parent with the child, by establishing that the parent obtains direct utility from it, we are implicitly assuming that the cost associated with parenting is forgone labor (see also Section 2.1.2). This is consistent with a framework in which parenting represents an activity that the parent considers meaningful or rewarding by itself (see, e.g., Wang, 2013 for the U.S.)

dividual time allocation choices can be due to correlation with an individual's unobserved characteristics.

Moreover, one should consider that we observe the parameter θ_{io} for a group of emigrants from country o in the representative destination (call it r). If there is selection and sorting of emigrants along the preference dimension, then the average value of θ_i for migrants from o can be nonzero and possibly correlated with some feature of the country of residence. The expression of preference for the group of migrants from o to country r can therefore be written as:

$$\ln \theta_{io}^{r} = \ln(\overline{\theta}_o) + \ln(\overline{\theta}_o^{r}) + \ln(\theta_i^1). \tag{3}$$

In expression (3), the term $\ln(\overline{\theta}_o^{r})$ represents the average (positive or negative) selection and sorting of the migrants to country r, and $\ln(\theta_i^1)$ is the idiosyncratic residual preference of that group of migrants. A problem will arise if the selection term is correlated with the characteristics of country r, such as its productivity and economy. As we will see below, such a correlation may bias the estimate of the impact of preferences on parental investment.

However, focusing on $\ln(\overline{\theta}_o)$ addresses both concerns. This value can be measured for the total population from country o, and it is orthogonal to individual characteristics and to immigrant selection. If the three components are log linearly separable and independent, as assumed above, then a consistent estimate of the culture-specific preferences for the country of origin is the average preference of people living in country o, which is very close to the average preference of the population in country o (as emigrants are usually a small fraction of the population).

2.1.2 Parenting time

The trade-off between work and parenting for individual "io" is easily derived if we assume that she only perceives labor income and she consumes all of it in one period (which can

be treated as one year). The budget constraint can be written as:

$$c_{io} = (1 - h_{io})w_{io} \tag{4}$$

where w is the individual hourly wage. Maximizing (1) with respect to h_{io}, subject to the budget constraint (4), we obtain the first-order condition:

$$\theta_{io} v'(h_{io}) = w_{io}, \tag{5}$$

where given the quasilinear structure of preferences, the marginal utility of consumption is equal to the marginal utility of income, which is equal to 1. Equation (5) describes that the optimal choice of time devoted to parenting is such that the marginal benefit of one additional hour of parenting in terms of the reward from parental engagement equals its opportunity cost in terms of foregone wages. By performing comparative statics on the first-order conditions, we derive how parental engagement and wages affect parenting hours:

$$\frac{\partial h_{io}}{\partial \theta_{io}} = -\frac{w_{io}}{v''_{hh}} > 0, \quad \textit{and} \quad \frac{\partial h_{io}}{\partial w_{io}} = \frac{1}{\theta_{io}^2 v''_{hh}} < 0 \tag{6}$$

From (6), it is intuitive that a higher engagement in parental activities induces the individual to spend more time with his or her own child; conversely, an increase in the market wage reduces parenting hours by raising their cost relative to labor supply.

2.2 Equilibrium and Estimating Equation

To formally derive the estimating equation, let us now assume that parenting utility takes the following functional form $v(h_{io}) = h_{io}^{\beta}$, where β is a parameter between 0 and 1, which guarantees decreasing marginal utility from parenting. By rewriting equation (5), we obtain the following allocation of time to parenting:

$$h_{io} = (\theta_{io}\beta)^{\frac{1}{1-\beta}} (w_{io})^{\frac{1}{\beta-1}} . \tag{7}$$

Take the natural logarithm on both sides of equation (7) and obtain:

$$\ln(h_{io}) = \frac{1}{1-\beta}(\ln\beta) + \frac{1}{1-\beta}(\ln(\theta_{io}) - \ln(w_{io})) \tag{8}$$

Additionally, let us assume that wages are described by a standard mincerian wage function

$$\ln(w_{io}) = a(e_{io}) + b(A_o). \tag{9}$$

Equation (9) describes wages as depending on an individual's observable and unobservable abilities, e_i, determined by his schooling, ability, experience and skills, and persistent characteristics of the country/culture of origin, A_o, that affect the productivity of individuals, such as work ethic, values, language and beliefs. By incorporating the wage equation (9) and the decomposition (3) into equation (8), we obtain the estimating equation:

$$\ln(h_{io}) = \widetilde{\beta}\ln\beta + \widetilde{\beta}\ln(\overline{\theta}_o) + \widetilde{\beta}\ln(\overline{\theta}^r_o) + \widetilde{\beta}\ln(\theta^1_i) - \widetilde{a}\ln(e_i) - \widetilde{b}\ln(A_o) \tag{10}$$

where $\widetilde{\beta} = 1/(1-\beta)$, $\widetilde{a} = a/(1-\beta)$, and $\widetilde{b} = b/(1-\beta)$. In expression (10), the variable $\ln(h_{io})$ measures the natural logarithm of the time allocated to parenting activities by individual i with culture of origin o in the destination country. Variable $\ln(\overline{\theta}_o)$ captures the culture-of-origin-specific preferences for parental activities. This is what we define as "culturally determined" parenting preferences, and it is uncorrelated with the individual-specific aspect $\ln(\theta^1_i)$. Similarly, it is also uncorrelated with the ability term e_i. Hence, the component $\ln(\overline{\theta}_o)$, which can be measured from all people with origin in country o, identifies the effect of culturally determined factors on the parental investments of migrants. The migrant sorting part, $\ln(\overline{\theta}_{or})$, is a term capturing the migrant average preference as a group, if they are different from those of all people with origin in o. The other variable specific to country o in equation (10) is the country-of-origin specific component of productivity described by A_o. Both terms should be properly controlled for in the empirical analysis. While one might argue that the cultural engagement of country o may affect the labor market institutions and regulations of country o itself, the impact on the time allocation of individuals of culture o working in a different country

is likely mediated by culture-specific preferences alone. By considering first- and second-generation migrants, we aim to isolate such an effect.

3 Empirical Implementation and Discussion of Identification

Equation (10) provides the basis for our empirical strategy and for the discussion of important issues of estimation and identification. First, let us emphasize that we are interested in the estimation of the causal impact of culture-of-origin-specific preferences, $\ln(\overline{\theta}_o)$, on parental investment for individual i from culture o working in the representative country of destination. Note that in equation (10), the parameter $\widetilde{\beta}$ is also the coefficient of terms $\ln(\theta_i^1)$ and $\ln(\overline{\theta}_{or})$. The former describes individual-specific preferences that can correlate with the unobserved components of skills and abilities, the term $\ln(e_i)$. The latter is the selection component of migrant preferences that can correlate with characteristics or institutions of the representative country of destination. Both correlations, if not properly accounted for, would imply that the estimated coefficient on those variables is a combination of $\widetilde{\beta}$ and $\widetilde{a}$. For instance, if individuals more engaged in parenting are also more skilled in a nonobservable way, then this characteristic will generate a spurious positive correlation between $\ln(\theta_i)$ and $\ln(e_i)$, inducing a bias in the estimate of $\widetilde{\beta}$. Alternatively, if migrants to the destination country, as a group, are positively selected in their preference for parenting activities because the country of origin has institutions that, e.g., help preserve the work–life balance, this will generate a spurious correlation that will bias the estimated coefficient of $\ln(\theta_o^r)$ on $\ln(h_{io})$. Hence, in our analysis, we isolate the measure of $\ln(\overline{\theta}_o)$ and its coefficient as the one of interest.

We generate the measure $\ln(\overline{\theta}_o)$ of parenting preferences, by using a data source, the World Value Survey (WVS), which is different from the one from which we obtain information on migrants' parenting behavior. In particular, we use all individuals with origin from o, and control for individuals' characteristics, so that such a measure is independent of migrant selection and should not be affected by individual biases. We

construct our measure of parenting culture as a preference trait for a direct intervention of parents in the activities of children.

In practice, we use the following question, which is available in all waves of the WVS: *Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?.* The list of answers include good manners, independence, hard work, feeling of responsibility, imagination, tolerance, thrift, determination, religious faith, unselfishness and obedience. Doepke and Zilibotti (2017) show that the importance that parents attach to the *obedience* of children is related to the 'authoritarian" parenting style, which relates to the direct intervention of parents into children choice set, and represents a trait common to the intensive and helicopter parenting styles, as defined in Doepke et al. (2019). On the contrary, the importance that parents attach to imagination or independence is related to a completely different parental attitude, labelled 'permissive" parenting, according to which parents have weak or no interventions in their children's lives. We thus consider the proportion of individuals listing *obedience* as an important child quality as a measure of parental engagement.

To measure country-specific parenting preferences, we consider working-age individuals (i.e., aged 15–70) in the countries of origin and construct a dummy variable equal to 1 if the individual i from country o lists *obedience* as an important child quality, and 0 otherwise. To retrieve a country-specific component from individual engagement, we estimate the following equation on the national samples of all countries included in the WVS:[8]

$$Value_Obedience_{io} = \varphi_o + bX_{it} + \epsilon_{io}. \tag{11}$$

In equation (11), φ_o is the country fixed effect, while X_{it} is a vector of individual controls including age, a dummy for females, two dummies for secondary and tertiary education, a dummy for being married, one dummy for having children and two

[8]In practice we consider individuals from the first six waves of WVS. This has the advantage of allowing to maximize the number of countries of origin, as some countries are available only in a few waves. Figure A-1 shows the aggregation of WVS can be done without loss of generality, because unconditional means for each country are rather stable overtime.

dummies for being unemployed or inactive in the labor market. We use the predicted country FE (φ_o) as our proxy of country-specific engagement in child-rearing activities ($Value_Obedience_o$), and we standardize it to have zero mean and unitary standard deviation. The construction of this measure has the advantage of providing a country-specific average, which is conditional on individual characteristics. Being obtained in the country of origin of the migrants, after partialling out the effect of individual characteristics, this component is immune to reverse causality going from local economic outcomes to individual preferences, which is a typical advantage of the epidemiological approach (Fernández, 2007). As this is the predicted country-specific effect from equation (11), it describes a "latent component of parenting attitudes that relates to the country of origin only.

Figure 1 displays a positive correlation of our cultural measure of value attached to the obedience of children with a comparable country-specific measure of intensive parenting (left-hand side panel) and a negative correlation with permissive parenting, as defined in Doepke et al. (2019). Both correlations are sizeable and highly significant. This supports our expectations that the importance attached to obedience is a good proxy of preferences for engagement into parenting activities, based on the insight coming from recent literature that investigated cross-country differences in parenting values and styles.[9]

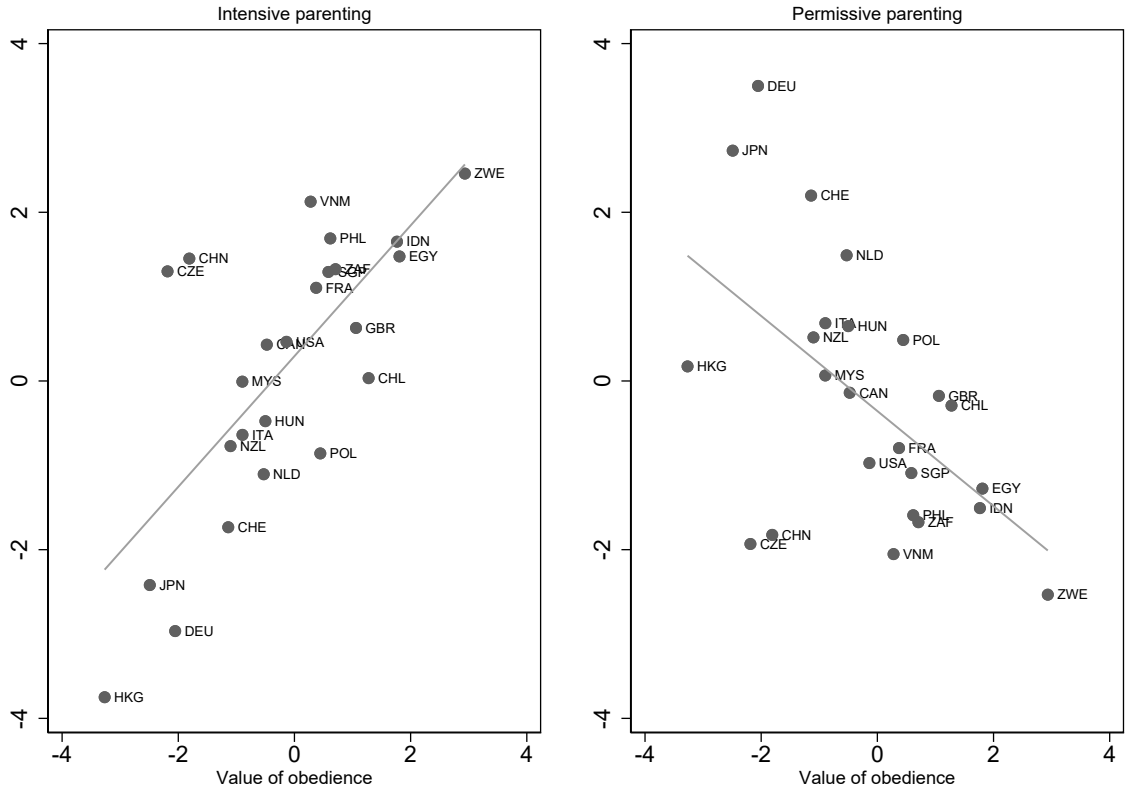
The main outcomes of interest are proxies for $\ln(h_{ior})$ in equation (10). In the main analysis, these are parent–child interactions (in terms of warmth, firmness, and induction of reasoning with the child); we also consider time investment measures such as total weekly hours of parenting, distinguishing between weekdays and weekends, and between general care and quality time (e.g., playtime). Throughout the paper, we also draw implications regarding the labor supply of the household.

In our baseline regressions, the unit of observation is the migrant parent i, from country of origin o, residing in Australia. Hence, the basic estimated specification is:

$$y_{io} = \alpha + \beta Value_Obedience_o + \delta X_{io} + \phi Y_{io} + \varphi Z_{io} + \gamma C_o + \epsilon_{io} \tag{12}$$

[9]In Table 4, we directly relate our analysis to intensive, helicopter and permissive parenting styles that feature heterogeneous degrees of engagement (Doepke et al., 2019).

Figure 1
Value of obedience and country-specific parenting styles



Notes. The figures report the correlation of $Value_Obedience_o$ with $Intensive_parenting_o$ (left-hand side) and $Permissive_parenting_o$ (right-hand side). $Intensive_parenting_o$ is the country-specific fixed effect obtained from equation (11) on a dummy equal to 1 if parents value the importance of obedience or hard work, and 0 otherwise. $Permissive_parenting_o$ is the country-specific fixed effect obtained from equation (11) on a dummy equal to 1 if parents value the importance of imagination or independence and neither value obedience nor hard work, and 0 otherwise. All regressions are conditional on vector of individual characteristics: age, a dummy for females, two dummies for secondary and tertiary education, a dummy for being married, one dummy for having children and two dummies for being unemployed or inactive in the labor market. The estimated coefficient for intensive parenting is 0.649 (0.137), the estimated coefficient for permissive parenting is -0.517 (0.172), and both are statistically significant at the 1% level. **Source**: Own elaborations on WVS data.

where y_{io} is the parenting outcome of parent i from country o and $Value_Obedience_o$ is the parenting culture of origin country o. The coefficient β in equation (12) represents the effect of culture in the country of origin on the parenting choice of the migrant parent. This is estimated conditional on X_{io}, Y_{io}, and Z_{io}, which are vectors of individual characteristics of the parent, the child, and the family as a whole, respectively.[10] These observable characteristics are important determinants of productivity and efficiency, i.e., the term $\ln(e_i)$, which may be correlated with parenting behavior in equation (10). The term C_o captures country-of-origin characteristics that potentially affect individual unobserved human capital and productivity, which may be correlated with the culture-of-origin preference for parenting, namely, the term $\ln A_o$ in equation (10).[11] Finally, the term ε_{io} is a zero-average idiosyncratic error, capturing measurement error and other unobservable characteristics affecting individuals' decisions about parenting.[12]

Given the arbitrary units of the variable $(Value_Obedience)_o$, we estimate the parameter β using a reduced-form epidemiological approach rather than estimating a two-stage specification in which culture of origin is a proxy (instrument) for individual parenting preferences. The identifying assumption in equation (12) is that, conditional on the control variables, the culture of origin engagement affects the parenting behaviors of immigrants in Australia only via their own parenting preferences. While immune to reverse causality, the epidemiological approach is sensitive to omitted variables bias. This is a concern as long as origin-specific cultural, economic or institutional characteristics correlate with $(Value_Obedience)_o$. Figure 2 plots unconditional correlations with a battery of these indicators, that measure beliefs about environment, inequality and gender, as well as economic conditions, and shows that our measure of cultural preferences for parenting

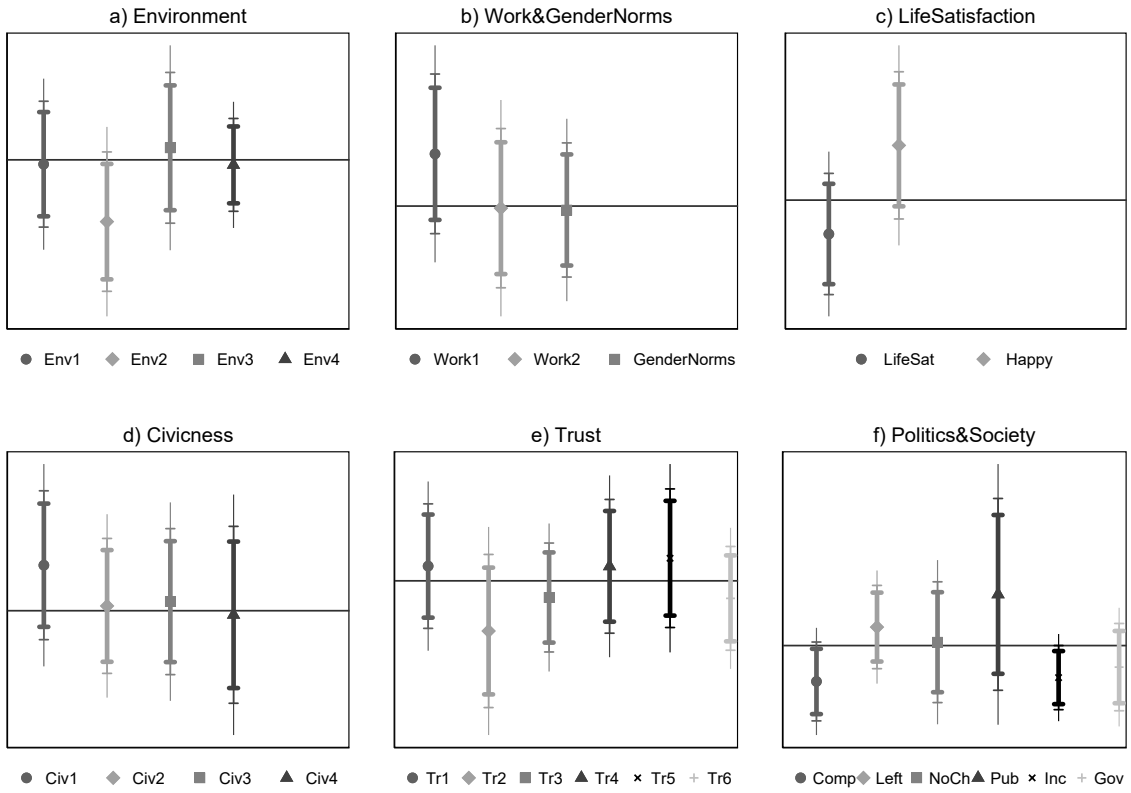
[10] In the analysis, we control for the parent's gender, age at childbirth, level of education and region of residence, as well as for the child's gender, number of siblings and birth order; we also control for whether the child lives in an intact household where both mother and father are present. More details on the specification of dependent and control variables used in the analysis are provided in Section 4 and in Appendix B.

[11] In the baseline specification, we control for the country-of-origin's GDP, proportion of individuals with tertiary education, and labor force participation rate. In a further robustness check, we add the unemployment rate and the fertility rate in the country of origin.

[12] In the baseline analysis, we cluster the standard errors at the country-of-origin level. However, as specified in Section 4 below, given that in the data we may observe both parents of the same child, we also perform a robustness analysis in which we cluster standard errors at the country-of-origin and at the child level. We will present results from this analysis in Section 5.1.

is not systematically correlated with any of them.

Figure 2
Value of obedience and other country-specific preference traits



Notes. The figures report the cross-country correlation of $Value_Obedience_o$ with a battery of variables taken from the WVS ($N = 24$). Each variable represents the share of individuals who agree with the following statements: we should give part of our income for the environment ($Env1$), the gov. should increase taxes to prevent pollution ($Env2$), the gov. should reduce pollution ($Env3$), protecting the environment is a priority ($Env4$); competition is good ($CompGood$), I consider myself as leftwing ($Left$); people not working are lazy ($Work1$), work is a duty ($Work2$), men have more right than women to work ($GenderNorms$); I am satisfied with own life ($LifeSat$), I feel very happy ($Happy$); cheating is not justifiable ($Civ1$), avoid fare is not justifiable ($Civ2$), I don't justify to accept bribe ($Civ3$), to claim gov benefits ($Civ4$); trust on parliament ($Tr1$), on police ($Tr2$), on civil service ($Tr3$), on the government ($Tr4$), on parties ($Tr5$), on justice ($Tr6$); society must be defended ($Noch$), government ownership should prevail (Pub), income should be more equal (Inc), gov. should take responsibility (Gov).
Source: Own elaborations on WVS data.

Estimates of β from equation (12) is also not immune to the selection and sorting of migrants. If people choose to migrate because of their parenting or work preferences, then migrants as a whole will have different preferences than the average person in the country of origin, which may generate a bias in the estimate. This issue is exacerbated by the fact that our data refer to a specific country of destination, Australia, and the

parents in our sample may have chosen to migrate to Australia because of its cultural or institutional features.

To ensure that these issues of selection and sorting do not bias our estimates, we perform several important checks. First, we repeat the baseline analysis by including the country-of-origin's immigration rates to Australia or emigration rates from the country of origin, which allows us to control for the intensity of selection and sorting between each country of origin and Australia. Second, while the baseline analysis includes both first- and second-generation migrant parents, we show that the results hold if we only consider second-generation parents or first-generation parents who migrated before age 10. For this group of migrants, which we label the *1.5 migrant generation*, there is less scope for selection because the migration decision was made by their parents. Third, we account for the biases that may be introduced into the analysis by special relationships between source countries (in particular, the UK) and Australia that determine an over-representation of migrants from these countries.[13]

4 Data

For our analysis, we obtain individual-level information on the parenting behaviors of migrant parents from the Longitudinal Study of Australian Children (LSAC hereafter). We use the LSAC data to obtain information on (i) parenting and (ii) demographic characteristics at the parent and child levels for a sample of migrants living in Australia.

Starting in 2003, the LSAC surveys two cohorts of children every two years and collects information on their well-being, education and health, as well as on their families. The first cohort was born in 2003–2004 (this is called *B-cohort*), and the second cohort was born in 1999–2000 (this is called *K-cohort*). For our analysis, we use both cohorts and exploit questions on children's time allocation, parenting attitudes and behaviors, as well as on demographic information on the child and the parents. A nice feature of the data is that information on time allocation and parenting is provided for both mothers and fathers; hence, our sample includes parents of both genders.

[13]Results from these analyses will be discussed in Section 5.1.

We investigate two complementary dimensions of parenting outcomes, both measured when the children are aged 4–5. The first dimension refers to parent–child interactions, measured as the degree to which the parent shows warmth or firmness or stimulates child's reasoning when carrying out parental activities (Zubrick et al., 2014). The parenting dimension of *warmth* or responsive parenting refers to displays of affection; the *firmness* dimension refers to the credible enforcement of age-appropriate rules; and *reasoning* refers to the act of talking over and explaining to the child why she or he has misbehaved. LSAC data provide several questions about the frequency with which certain events related to parent–child interactions occur.[14] For each parent and for each dimension, we define the average over the frequency of the corresponding events, which ranges between 1 (*Never*) and 5 (*Always*). From each set of items, we then define binary variables indicating whether the levels of *warmth*, *firmness* and *reasoning* in parenting are larger than the median (Zubrick et al., 2014).[15]

The second dimension regards the amount of time parents spend in several parental activities, as well as their allocation during the week. LSAC includes a children time-use diaries (TUDs) module, which collects details on the activities done by the child on two randomly assigned days, a working and a weekend day, and on the person who was together with the child.[16] We define the total weekly time spent by the parent *alone* with the child, and we also distinguish the amount of weekly time spent in *general care*, *play*, *educational activities* and using *media*.[17] In addition to the total weekly time spent in each category, we distinguish between weekdays and weekend days. This is an important feature of our data, which allows us to investigate the implications of parental activities

[14]See Appendix B for a list of the questions used. Notice that the questions are the same for the B- and the K-cohorts.

[15]The median is computed on the entire sample of migrants observed in LSAC data, and not on the final sample used for the analysis. The median values of the three variables are respectively, 4.3 for *warmth*, 4.2 for *firmness*, and *4* for *reasoning*.

[16]Previous papers that have measured parental investments using time diaries include Hsin (2009), Price (2008), Del Boca et al. (2014), Del Boca et al. (2017), Fiorini and Keane (2014), Nicoletti and Tonei (2020), and Brilli (2022).

[17]General childcare activities include eating, drinking, being fed, bathing, dressing, hair care, health care. Play activities refer to indoor or outdoor playing, while educational activities include reading or being read to, or talking. Media refers to music listening, watching TV or computer use. See Appendix B for additional details on the time classification.

for the labor supply of the household, likely occurring during the week.[18]

Importantly, LSAC data provide information on the country of birth of both parents and on the country of birth of the grandparents of the sampled children. As all children in the sample are born in Australia, this allows us to identify whether a child is a third- or second-generation migrant and whether a parent is a first- or second-generation migrant. To the best of our knowledge, this is the only survey dataset in the world that allows researchers to observe a sufficiently large number of migrant parents and provide extensive information on parenting behaviors. For the first-generation migrant parent, we define the country of origin as the country of birth. For a second-generation migrant parent, we assume the country of origin is the country of birth of the migrant grandparent, giving priority to the country of origin of the grandmother in case both grandparents are migrants.[19] Having identified the country of origin for each immigrant parent in Australia, we attach to him or her the country-of-origin specific measure of parental engagement described in Section 3.

For our analysis, we select first- and second-generation migrant parents in the LSAC data, and we thus drop parents who were born in Australia. In general, we consider only the 29 countries of ancestry that have at least five migrants in Australia. For the baseline analysis, we further restrict the sample to countries with at least nine immigrants in Australia. After also excluding parents for which we do not observe all outcome and control variables, we remain with a sample of 2,299 migrant parents from 24 countries of ancestry.[20]

Table 1 reports descriptive statistics for the baseline sample of migrants and their families. Panel A displays information on parent-to-child interactions. On average, 59% of the parents in our sample exert a high level of warmth and affection with their children; a similar share of parents reports to be severe, i.e., engaged in having their own children

[18] In a further analysis, we look explicitly at outcomes related to labor force participation at the extensive and intensive margins. See Section 6 and Appendix D.

[19] In practice, we assume the country of origin of the second generation migrant parent is the country of birth of the grandmother, if she is a migrant, or the country of birth of the migrant grandfather in case the grandmother is born in Australia. This is consistent with evidence that mothers are more relevant for the cultural transmission process, e.g., for norms related to attitudes and gender equality (Fernández et al., 2004; Moriconi and Peri, 2019).

[20] Appendix B provides additional details on the sample selection performed for the analysis.

respect rules. Finally, 78% of the sample reported engagement in a reasoned parenting style, which prioritizes children's understanding of their misbehavior.

Panel B reports information on the allocation of parenting time (in hours). On average, parents in our sample spend approximately 22 hours per week on parenting activities. Approximately three-quarters of these are allocated during weekdays, and the remaining quarter is allocated during the weekend, with considerable variability in the sample. On average, parents allocate 9.6 hours per week to general childcare activities, while about 12 hours per week are allocated to activities carried out with children either for education (4.5 hours per week, on average), or in the leisure domain such as play (4.5 hours) or media (2.7 hours). The next two panels present more information on the allocation of parental activities. In Panel C, we present ratios between the time parents allocate to activities with own child and the time they allocate to simple childcare. The active time ratio larger than 3 on average suggests that parents tend to engage more into education or leisure activities, which are more productive time inputs for children cognitive skills relative to general childcare tasks. There is a rather high variation in this dimension too, with lowest ratios that approach 0 (featuring a full engagement in general care for some parents), and generally large standard deviations. Panel D turns to the allocation of parental time during the week. About one third of parental time is concentrated during the weekend, particular in leisure activities.[21]

Panel E summarizes the characteristics of the final sample in terms of the characteristics of parents, children, and family composition. It shows that the majority of parents in our sample are second-generation migrants, highly educated, with slightly more females than males.[22] The 32% of families in the sample lives in the capital region. The vast majority of households are intact; in these families, 77% of parents are employed and work approximately 30 hours per week on average (see Section 6 below for a detailed

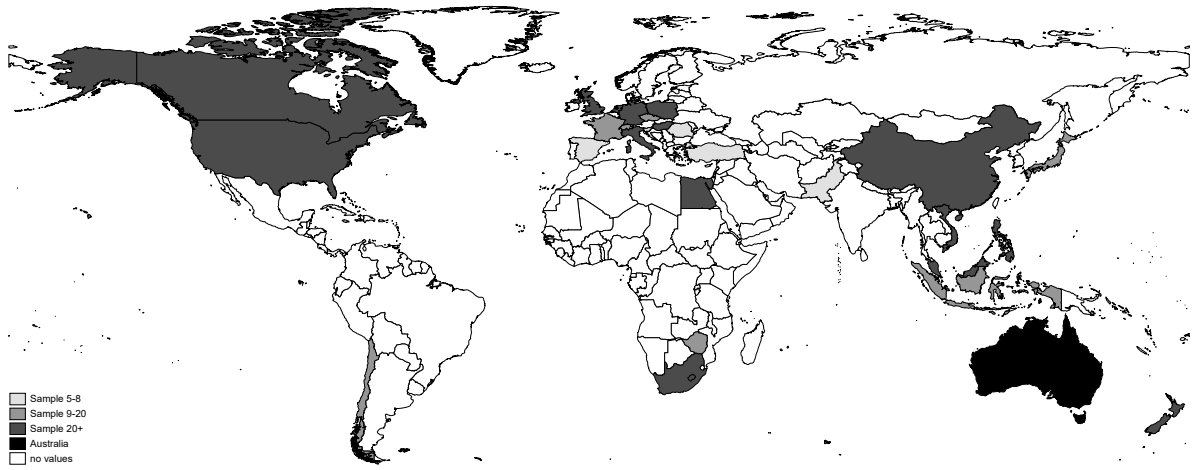
[21]Notice that, in order to compute ratios reported in Panels C and D we have assumed that all parents in the sample allocate at least 15 minutes per week to general care, education, media and play. This guarantees there are not zeros in the denominators.

[22]We define a parent as having a high level of education if he or she obtains a secondary education degree. A parent is defined as young at childbirth if his or her age at the birth of the child is below the 25th percentile of the corresponding gender distribution. The results presented below do not change if we include age dummies, identifying parents giving birth before age 30, between ages 30 and 39, and older than 40 years. Results available upon request.

analysis of household labor supply). Finally, Panel F reports average characteristics of the country of origin of the migrant parents.

4.1 Descriptive Evidence

Figure 3
Origin countries of migrants in our sample.



Notes. In light gray origin countries with between 5 and 9 migrant observations. In gray, origins featuring between 10 and 20 migrant observations. In dark gray origins featuring more than 20 migrant observations. In black, the destination country of migrants (Australia).

Figure 3 shows the geographical distribution of the countries of origin of our migrant parents. Migrants to Australia come from all continents. Focusing on 24 countries that have at least nine migrants in our data implies the exclusion of some countries from Eastern Europe and Asia (evidenced in light gray) from the baseline analysis.[23] Figure 4 reports the distribution of $Value_Obedience_o$ across these 24 countries of origin of immigrants included in the baseline sample.[24] The value of the indicator, which we standardized with a zero mean and a unitary standard deviation, varies between the minimum value of -3.26 for Hong Kong and the maximum value of 2.93 for Zimbabwe. Australia is in the middle of the distribution ($-.12$), very close to the U.S. ($-.14$), as it

[23]The choice of excluding countries of origins for which we observe fewer than nine migrants is in line with standard practice in the cultural economics literature. In the robustness checks, we report results for all 29 countries (i.e., with at least five migrants). We also report results when we restrict the sample even more and consider only countries with at least twenty migrants in the LSAC data (which implies a final sample of 16 countries of ancestry). We report these results in Table 5, Panels G, and H. Appendix Table C-3, Panel D, reports the results of the analysis if we condition on countries with more than 10 observations.

[24]Similarly, Figure A-2 in the Appendix describes variation in $Value_Obedience_o$ across the 29 countries (5+ migrants; see Panel A) and the 16 countries (20+ migrants; see Panel B).

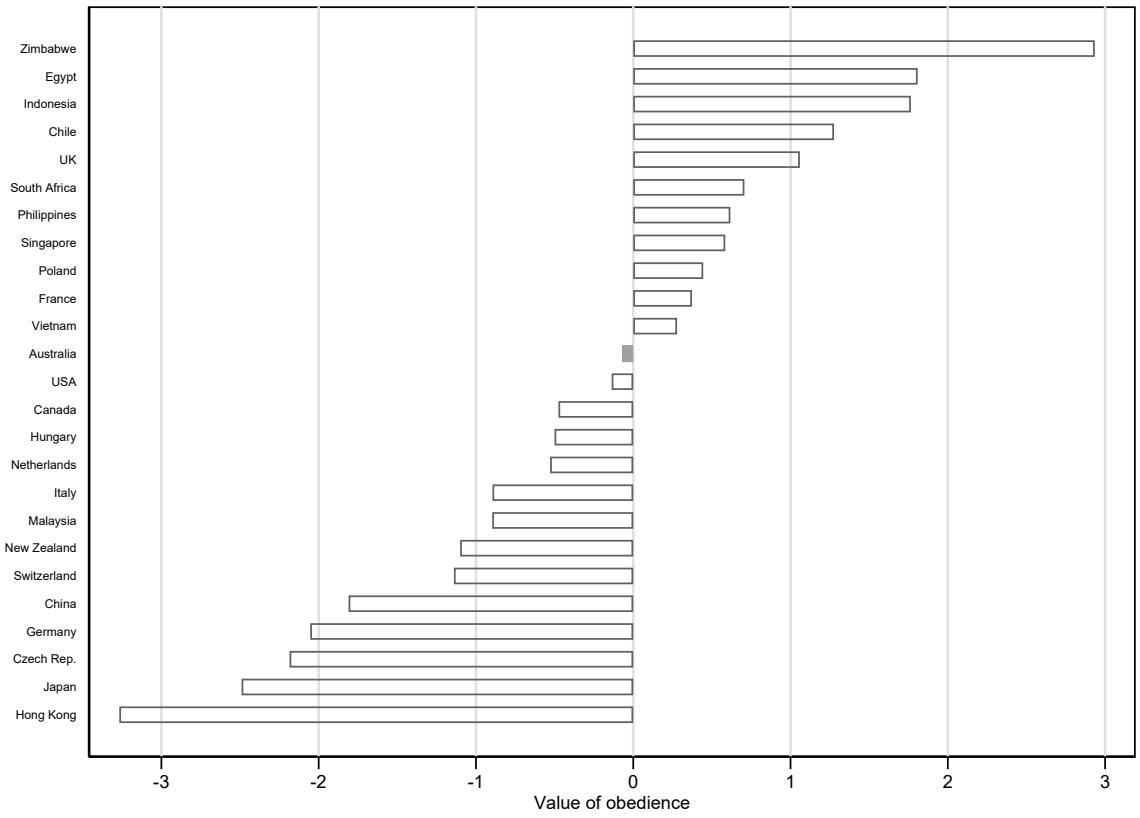
Table 1
Descriptive statistics.

	Mean	SD	Min	Max	N
Panel A. Quality of parent-to-child interactions					
Warmth	0.592	0.492	0	1	2299
Firmness	0.585	0.493	0	1	2299
Reasoning	0.780	0.414	0	1	2299
Panel B. Parental time allocations					
Total hours, weekly	21.881	18.803	0.000	92.500	2299
Total hours, weekdays	16.239	16.511	0.000	75.000	2299
Total hours, weekend	5.642	6.374	0.000	31.500	2299
Total hours, childcare	9.599	9.322	0.000	57.000	2299
Total active hours (education, media, play)	11.807	11.540	0.000	77.500	2299
Total hours of education	4.523	6.194	0.000	45.750	2299
Total hours of media	2.745	4.133	0.000	47.000	2299
Total hours of play	4.539	6.063	0.000	42.500	2299
Panel C. Active time ratios (relative to childcare)					
Active time ratio	3.451	9.435	0.037	194.000	2299
Education time ratio	1.629	7.669	0.006	184.000	2299
Media time ratio	0.706	2.126	0.006	41.000	2299
Play time ratio	1.116	3.084	0.005	47.000	2299
Panel D. Weekend shares (of total weekly time)					
Total time	0.354	0.332	0.000	0.990	2299
Active time	0.342	0.348	0.000	0.989	2299
Education time	0.226	0.323	0.000	0.986	2299
Media time	0.193	0.321	0.000	0.979	2299
Play time	0.295	0.378	0.000	0.984	2299
Panel E. Individual and family characteristics					
Parent is 1st-generation migrant	0.437	0.496	0.000	1.000	2299
High-educated parent	0.783	0.412	0.000	1.000	2299
Young parent (at birth)	0.234	0.423	0.000	1.000	2299
Parent is mother	0.617	0.486	0.000	1.000	2299
Both parents are migrants	0.319	0.466	0.000	1.000	2299
Child born in 2003/2004	0.521	0.500	0.000	1.000	2299
Child is male	0.536	0.499	0.000	1.000	2299
Child is first born	0.449	0.497	0.000	1.000	2299
Child has no siblings	0.561	0.496	0.000	1.000	2299
Family lives in Capital region	0.320	0.467	0.000	1.000	2299
Intact household	0.942	0.234	0.000	1.000	2299
Parent is employed	0.774	0.418	0.000	1.000	2166
Hours of work of the parent	26.419	21.356	0.000	114.000	2166
Panel F. Country of origin characteristics					
GDP per capita	31625.570	12409.452	765.186	67807.927	2299
Prop tertiary education	20.236	9.290	1.018	48.474	2299
Labour Mkt Participation Rate (Tot)	60.948	6.098	46.116	79.454	2299

Notes. Panel A reports descriptive statistics of variables measuring parent-child interactions, while Panels B-C-D refer to time investments: Panel B reports total hours by weekday/weekend and by category of activity; Panel C reports ratios of active time over general care; Panel D refers to weekend shares of time (over total weekly time) by category of activity. Panel E reports descriptive statistics of the variables at the parent, child and family level that are controlled for in the baseline analysis; Panel E also reports the probability that a parent works and the number of hours worked in a week (only for intact households, $N = 2166$). See Section 4 and Appendix B for a description of the variables reported in Panels A-E. Panel F reports the control variables at the country-of-origin level (GDP per capita, proportion of individuals with a tertiary education, total labor market participation rate), that refer to the year 2000,i.e., before the parenting measures in LSAC data are taken. **Source**: Own elaborations on LSAC data. Variables at the country level are taken from the World Development Indicators (World Bank).

balances elements of more and less interventionist cultures. One standard deviation of $Value_Obedience_o$ is comparable to the difference between a country such as France (equal to 0.37), characterized by a culture whose parents are more engaged in time-intensive parenting activities compared to a country such as Italy (equal to -0.89), characterized by a more permissive culture.

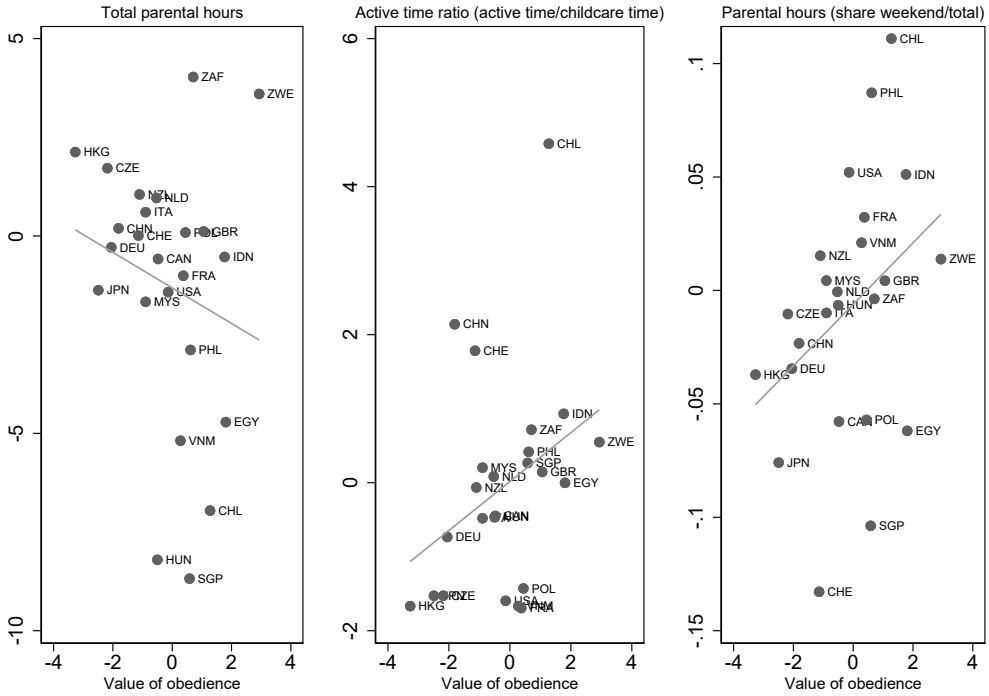
Figure 4
Distribution of Value of obedience across origin countries



Notes. The figure reports the cross-country distribution of $Value_Obedience_o$. **Source**: Own elaborations on WVS data.

Figure 5 presents the first cross-country correlation between parental engagement and time investments by immigrant groups in Australia. The figure shows on the horizontal axis the $Value_Obedience_o$ indicator (cfr. Figure 4 above). On the vertical axis, we plot the country-of-origin residual variation of parenting outcomes of immigrants after controlling for the set of individual characteristics reported in Panel E of Table 1. In the left-hand side panel, the parenting outcome on the Y-axis is the origin-specific total number of parenting hours. The graph does not seem to show any significant correlation

Figure 5
Country-of-origin value of obedience and parental time investments



Notes. The parenting outcome on the Y-axis is measured as country-of-origin residual variation of parenting outcomes, after controlling for the set of individual characteristics reported in Panel E of Table 1 ($N = 24$). The coefficient for total time is -0.44 (0.467); the coefficient for the active time ratio is 0.33 (0.195); the coefficient for the share of time during the weekend is 0.013 (0.007). **Source**: Own elaborations on LSAC and WVS data.

with parenting culture. In the central panel, we look at the active time ratio. We now see a positive correlation suggesting that parents coming from cultures that value obedience tend to allocate more time to education or leisure activities with own child compared to general care. Finally, in the right-hand panel, we consider the predicted origin-specific parental time immigrants allocate to weekends (as a share of total parenting time). Also in this case, we see a positive correlation that indicates that emigrants from countries that value obedience a lot tend to spend a higher share of their parenting time during the weekends. In both cases, the OLS coefficient is positive and marginally significant, suggestive of a positive association. In line with predictions from the epidemiological approach, these positive correlations are not driven by the exposure of immigrants to policies and institutions of the country of origin; instead, they must derive from the fact that immigrants to Australia share parenting attitudes with people in their country of origin.

While not conclusive, evidence in Figure 5 suggests there is some correlation between parenting culture (shared by all people from the same country of origin), and the parenting behavior of immigrants from that culture of origin residing in Australia. Country-specific parental value of obedience does not seem to correlate with the quantity of time devoted to parenting activities in total. Rather, it correlates to a larger share of productive time (relative to general care) spent with children, in particular during the weekend. In the empirical analysis, we aim to more precisely isolate these associations.

5 Main Results: Culture & Parenting Outcomes

Table 2 reports the results of the analysis, where we investigate the effect of parenting culture on the parent-to-child interactions, measured as the degree with which the parent exerts warmth, exhibits firmness or stimulates reasoning with the child. Results suggest a positive effect of cultural value attached to obedience on all three dimensions of parental interactions with own child. A one standard deviation increase in country-specific value of importance attached to obedience significantly increases parenting intensity in the

Table 2
Baseline results: country-specific value of obedience and parent-to-child interactions.

	(1) Warmth	(2) Firmness	(3) Reasoning
Value_Obedience$_o$	0.0333***	0.0272***	0.0089
	(0.0088)	(0.0085)	(0.0065)
Parent is 1st-generation migrant	-0.0238	-0.0582***	0.0075
	(0.0204)	(0.0151)	(0.0154)
High-educated parent	-0.0075	0.1273***	0.0428
	(0.0125)	(0.0185)	(0.0262)
Young parent (at birth)	0.0165	-0.0128	-0.0288
	(0.0172)	(0.0239)	(0.0178)
Parent is mother	0.1982***	0.0624**	0.1456***
	(0.0369)	(0.0223)	(0.0275)
Child born in 2003/2004	0.0421***	0.0458***	-0.0128
	(0.0119)	(0.0140)	(0.0260)
Child is male	-0.0063	-0.0257**	0.0091
	(0.0183)	(0.0107)	(0.0159)
Child is first born	0.0422***	0.0349**	0.0820***
	(0.0132)	(0.0147)	(0.0126)
Child has no siblings	0.0095	0.0186	0.0172
	(0.0174)	(0.0136)	(0.0103)
Family lives in Capital region	0.0310*	-0.0437**	0.0099
	(0.0150)	(0.0163)	(0.0196)
Both parents are migrants	-0.0317**	0.0136	0.0195
	(0.0137)	(0.0132)	(0.0236)
Intact family	-0.0537*	0.0643**	0.0070
	(0.0281)	(0.0261)	(0.0384)
Tot LFP	-0.0054***	0.0020	-0.0020
	(0.0019)	(0.0018)	(0.0016)
GDP pc/10000	-0.0012	0.0251**	0.0096
	(0.0102)	(0.0115)	(0.0088)
Prop. Tertiary Edu	0.0022**	0.0042***	-0.0002
	(0.0010)	(0.0014)	(0.0008)
Constant	0.7754***	0.0968	0.6914***
	(0.1132)	(0.1140)	(0.1096)
Observations	2299	2299	2299

Notes. The table reports the results from OLS regressions on the variables reported at the top. See Section 4 and Appendix B for a description of the outcome and control variables. Standard errors are clustered at the country-of-origin level. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. **Source**: Own elaborations on LSAC and WVS data.

warmth and firmness dimensions: the probability of being a warm parent, who displays affection for own child, increases by 3.3 p.p. (cfr. Column (1)). The probability of being a firm parent who sets and enforces rules for the child increases by 2.7 p.p. The probability of being a parent who stimulates reasoning and reflection by the child, e.g., over own misbehavior, also increases by 0.8 p.p., however this is not statistically different from zero.

Coefficients of the other control variables suggest that other family characteristics also matter. Mothers have more intense interactions compared to fathers in all three dimensions. Parental interactions are stronger with the first born, compared to younger children, on average. Firmness is higher among more educated parents compared to less educated ones, among parents in intact families, which are also less warm compared to single parents. In general parents are more severe with girls than with boys, on average. First generation migrant parents tend to be more liberal than second generation migrants with own children. Migrant parent tend to be less warm with own child, when the other parent is also a migrant, compared to a family where the second parent is Australian. Finally, families living in capital regions are more liberal and warmer than those living in other regions on average.

Table 3 reports the baseline results as we estimate equation (2) on the different indicators that describe the time investments of parents into children. In Panel A, we look at the total number of hours that each parent spends alone with the child. Column (1) shows that, on average $Value_Obedience_o$ does not have any significant effect on the total amount of time the parent spends with their own child. However, in Column (2), we find that a higher value of obedience as a child quality is associated with a significant reduction in the number of hours dedicated to general care: a one standard deviation increase in $Value_Obedience_o$ implies a reduction of care by about 9 minutes ($= 0.157 * 60$) per week, on average. This is a small, still non-negligible amount, equivalent to about the 1.6% of the differential care time devoted by a mother relative to a father, on average.[25]

[25]This is described by the coefficient of the "Parent is mother" dummy, which describes the mother providing about 540 minutes ($= 8.993 * 60$) of general care more than the father, on average (cfr. Table C-1).

Table 3
Baseline results: country-specific value of obedience and time investments

Panel A: Total weekly hours				
	(1) all	(2) childcare	(3) weekdays	(4) weekend
Value_Obedience$_o$	-0.166	-0.157*	-0.341**	0.175**
	(0.167)	(0.086)	(0.124)	(0.065)
Observations	2299	2299	2299	2299
Panel B: Active time ratios (relative to childcare)				
	(5) all activities	(6) education	(7) media	(8) play
Value_Obedience$_o$	0.147*	0.002	0.018	0.128***
	(0.081)	(0.069)	(0.021)	(0.024)
Observations	2299	2299	2299	2299
Panel C: Weekend share (of total weekly hours)				
	(9) all activities	(10) education	(11) media	(12) play
Value_Obedience$_o$	0.012***	0.007*	0.007	0.014***
	(0.003)	(0.004)	(0.005)	(0.003)
Observations	2299	2299	2299	2299

Notes. The table reports the results from OLS regressions on the variables reported at the top. See Section 4 and Appendix B for a description of the outcome and control variables. Standard errors are clustered at the country-of-origin level. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. **Source**: Own elaborations on LSAC and WVS data.

In Columns (3) and (4) we consider the timing of parental investment during the week. We show that country-specific value attached to obedience is associated with a shift of parenting activities from weekdays to the weekend. Estimates suggest that a one standard deviation increase of $Value_Obedience_o$ is associated with a reduction of parenting time during the week of approximately twenty minutes ($= 0.341 * 60$) and with a corresponding increase of parenting time during the weekend by 10.5 minutes ($= 0.175 * 60$). These values are not negligible considering that a sizeable cultural divide between the engaged U.S. parenting culture and the relatively permissive German culture is described by roughly two standard deviations of our country-specific parental engagement indicator. On average, our results suggest that, by their own parenting culture only, someone with U.S. ancestry spends 40 minutes less with their own children during the week and 21 minutes more during the weekend compared to a parent who is observationally equivalent (in terms of individual, family, or children characteristics), but has a German ancestry.

In Panel B, we turn to the analysis of the association between parenting culture and ratios between the number of hours the parent spends in activities done with the child (education, media and play) and general care. Overall, evidence in this panel suggests that an engaged parenting culture induces parents to move time investments away from unproductive childcare to more active time inputs. In Column (5), we find a positive significant association between parental engagement and the general active time ratio. Estimates suggest that a one standard deviation increase in the value of obedience rises the active time ratio by over 4% (evaluated at the sample mean equal to 3.451; cfr. Table 1). This is equivalent to the 8.6% of the differential active time ratio between a father and a mother, or the 15% of the difference in time ratios between a parent in an intact family relative to a single parent (cfr. Table C-1)[26]. The time ratio increase is driven by play activities (cfr. Column (8)), while coefficients for education and media are positive but non significantly different from zero (cfr. Columns (6) and (7)).

In Panel C, we turn to the timing of the parental investments. Estimates in columns (9)-(12), suggest that parents coming from cultures that attach a higher value to the

[26]These values are obtained by comparing the coefficient of $Value_obedience$, with coefficients of "Parent is a mother" (-1.700) and "Intact family" (0.960) in Column (3) of Table C-1.

obedience of children spend a higher share of their total time investment during the weekend. Estimates in Column (9) show that a one standard deviation increase in $Value_Obedience_o$ implies a 1.2 p.p. increase in total parental time allocated from work-days to weekends. The effect is significant for both education activities (+0.7 p.p. during weekends; cfr. Column (10)) and play (+1.4 p.p.; cfr. Column (12)). This is equivalent to the 5.8% of the weekend share differential between a father and a mother, or the the 11.5% of the difference in weekend shares between a parent in an intact family, relative to a single parent, on average (cfr. Table C-2).[27] The evidence in this panel suggests that a cultural trait that emphasizes parental engagement entails some redistribution of parenting time from weekdays to weekends. To our knowledge, this is a novel result in the literature, indicating that increased parental engagement does not necessarily come at the expense of labor supply during weekdays. This may provide an additional mechanism for the well-documented lack of a trade-off between parenting time and labor supply in the literature (see Hsin and Felfe, 2014).

By construction, $Value_Obedience_o$ features a cultural trait of 'authoritarian' parenting, as discussed by the literature that analyzes parenting styles (Doepke and Zilibotti, 2017; Doepke et al., 2019). Indeed, results above suggest a cultural trait that manifests itself through the direct intervention of parents into the decision set of their children. Maybe more surprisingly, this trait is also associated with warm parent–child interactions, and with an active engagement of parents with their child, which does not necessarily relate to an authoritarian parenting style. However, we should not forget that the value of obedience is also an important ingredient of helicopter and intensive parenting styles, which stress the importance of parental involvement into children's activities, with the objective of forming them as responsible, accountable, and assertive individuals. Other forms of parenting feature a more limited intervention of parents, either because they privilege autonomy within boundaries sets by clear and consistent rules (as in the case of authoritative parenting), or because they emphasize creativity and independence at the cost of a low enforcement of rules and guidelines (as in the case of permissive parenting)

[27] These values are obtained by comparing the coefficient of $Value_obedience$, with coefficients of "Parent is a mother" (-0.206) and "Intact family" (-0.104) in Column (3) of Table C-2.

In Table 4, we relate this 'latent' cultural trait of parental engagement precisely to these four parenting styles. We estimate equation (12), by replacing $Value_Obedience_o$ with country-specific indicators reporting, respectively, the average degree of *intensive*, *helicopter*, *authoritative* and *permissive* parenting in each country of origin. We construct each indicator as we did for $Value_Obedience_o$. In practice, we define a preference for intensive parenting as a dummy equal to 1 if an individual lists obedience or hard work as important child qualities, 0 otherwise; we define a preference for helicopter parenting as a dummy equal to 1 if an individual lists both obedience and hard work as important child qualities, 0 otherwise; we define authoritative parenting preference as a dummy equal to 1 if an individual does not list obedience but lists hard work among child qualities; finally we define permissive parenting as a dummy equal to 1 if an individual neither lists obedience or hard work but lists either independence or imagination as important child qualities (0 otherwise). We replace each variable to $Value_Obedience_{io}$ in eq. (11), and predict the origin specific fixed effect from each specification to obtain $Intensive_o$, $Helicopter_o$, $Authoritative_o$, and $Permissive_o$, respectively.

The results in Table 4 suggest that the cultural trait identified in Tables 2 and 3 manifests itself through the direct engagement into intensive or helicopter forms of parenting, rather than authoritative or permissive styles. Parents coming from intensive and helicopter parenting cultures are more likely to be warm, and severe parents, willing to allocate active and playful time with their child, particularly during weekends. In contrast, parents coming from an authoritative culture that promotes autonomy within clearly defined boundaries, do not seem to display any specific engagement with their children; parents coming from permissive cultural backgrounds which stress values other than parental engagement tend to be less affectionate parents, who spend little (active) time with their children. We take these additional results as evidence that value individuals attach to obedience proxies very well the direct engagement of parents into child-rearing activities. We decide to use $Value_Obedience_o$ as our preferred measure of origin-specific parental engagement for the rest of the analysis.

Table 4
Country-specific parenting styles and parental outcomes.

	Parent-Child Int.		Active time ratios		Weekend time share	
	(1) warmth	(2) firmness	(3) all activities	(4) play	(5) all activities	(6) play
Intensive_o	0.031***	0.025***	0.164**	0.118***	0.015***	0.015***
	(0.009)	(0.008)	(0.066)	(0.029)	(0.005)	(0.005)
Helicopter_o	0.037***	0.025**	0.059	0.154***	0.014**	0.017***
	(0.012)	(0.011)	(0.122)	(0.037)	(0.005)	(0.005)
Authoritative_o	-0.018	-0.015	-0.018	-0.070	0.004	-0.003
	(0.019)	(0.017)	(0.193)	(0.059)	(0.008)	(0.009)
Permissive_o	-0.032***	-0.023**	-0.123	-0.111**	-0.016**	-0.012*
	(0.010)	(0.009)	(0.090)	(0.043)	(0.007)	(0.006)
Observations	2299	2299	2299	2299	2299	2299

Notes. The table reports the results from OLS regressions on the variables reported at the top. Each row indicates a different regression, whose regressor of interests at the country-of-origin level is reported in the first column: *intensive parenting* is defined by the proportion of individuals listing obedience or hard work as important child qualities; *elicopter parenting* as the proportion of individuals listing both obedience and hard work as important child qualities; *authoritative parenting* as the proportion of individuals who do not list obedience but do list hard work; and *permissive parenting* as the proportion of individuals who do not list obedience and are not authoritative but list either independence or imagination as important child qualities. See Appendix B for a description of the outcome and control variables. Standard errors are clustered at the country-of-origin level. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. **Source**: Own elaborations on LSAC and WVS data.

5.1 Sensitivity analysis

In Table 5, we present a battery of specification checks on the main findings presented in Tables 2 and 3 above. In Columns (1) and (2), we consider the results on parental interactions with children; we focus on warmth and firmness as these were highly significant in Table 2. In Columns (3)-(6) we look at results on active time ratios and week-end shares. We consider the sum of all activities, and zoom on the play component which appeared the most salient one in Panels B and C of Table 3. We start by varying the set of controls. In our main estimates, the gender of the parent and the dummy for the intact household are characteristics with a consistent significant effect on parenting outcomes across all specifications. In Panel A, we exclude the control variables at the parent, child and country-of-origin level altogether. In Panel B, we include additional individual controls instead, i.e., English language and religious denomination, which have been considered

Table 5
Sensitivity analysis

	Parental attitudes		Active time ratios		Weekend time share	
	(1) warmth	(2) firmness	(3) all activities	(4) leisure	(5) all activities	(6) leisure
Panel A: Drop individual, child, and family characteristics						
Value_Obedience$_o$	0.031***	0.028***	0.172*	0.136***	0.016***	0.017***
	(0.009)	(0.008)	(0.090)	(0.026)	(0.004)	(0.004)
Panel B: Include religious denomination, english skills						
Value_Obedience$_o$	0.034***	0.028***	0.235**	0.125***	0.014***	0.014***
	(0.009)	(0.008)	(0.109)	(0.031)	(0.004)	(0.004)
Panel C: Drop country-of-origin characteristics						
Value_Obedience$_o$	0.032***	0.028*	0.158	0.129***	0.011***	0.014***
	(0.011)	(0.015)	(0.109)	(0.028)	(0.004)	(0.004)
Panel D: Additional country-of-origin characteristics						
Value_Obedience$_o$	0.027***	0.023***	0.130	0.100***	0.013***	0.013***
	(0.008)	(0.008)	(0.079)	(0.018)	(0.003)	(0.004)
Fertility rate	0.065**	0.035	0.165	0.243**	-0.010	0.011
	(0.027)	(0.034)	(0.325)	(0.094)	(0.019)	(0.021)
Unemployment rate	0.001	0.006**	0.014	0.057***	-0.001	-0.000
	(0.002)	(0.002)	(0.019)	(0.007)	(0.001)	(0.001)
Panel E: Control for importance of imagination						
Value_Obedience$_o$	0.047***	0.028***	0.069	0.110***	0.011**	0.013***
	(0.006)	(0.010)	(0.122)	(0.035)	(0.004)	(0.003)
Imagination important_o	-0.035***	-0.003	0.199	0.044	0.001	0.004
	(0.011)	(0.013)	(0.148)	(0.043)	(0.006)	(0.006)
Panel F: Control for importance of independence						
Value_Obedience$_o$	0.035***	0.028***	0.180**	0.115***	0.012***	0.016***
	(0.008)	(0.008)	(0.076)	(0.026)	(0.003)	(0.003)
Independence important_o	0.006	0.005	0.165	-0.061	0.002	0.011
	(0.011)	(0.011)	(0.100)	(0.058)	(0.007)	(0.007)
Panel G: Control for immigration rates						
Value_Obedience$_o$	0.033***	0.027***	0.147*	0.127***	0.012***	0.014***
	(0.009)	(0.008)	(0.079)	(0.024)	(0.003)	(0.003)
Immigration rate	0.010	0.022***	-0.103	-0.052	-0.006	-0.008*
	(0.008)	(0.007)	(0.138)	(0.051)	(0.004)	(0.004)
Panel H: Analysis on 1.5 generation migrant parents						
Value_Obedience$_o$	0.029***	0.013	0.044	0.139***	0.016***	0.021***
	(0.010)	(0.009)	(0.155)	(0.027)	(0.005)	(0.004)
Observations	1651	1651	1651	1651	1651	1651
Panel I: Keep origin countries with 5+ migrants						
Value_Obedience$_o$	0.032***	0.027***	0.148*	0.126***	0.011***	0.014***
	(0.009)	(0.008)	(0.081)	(0.024)	(0.003)	(0.003)
Observations	2328	2328	2328	2328	2328	2328
Panel J: Keep origin countries with 20+ migrants						
Value_Obedience$_o$	0.029***	0.022**	0.128	0.129***	0.010***	0.012***
	(0.009)	(0.008)	(0.079)	(0.027)	(0.003)	(0.003)
Observations	2200	2200	2200	2200	2200	2200
Panel K: Two-way clustering						
Value_Obedience$_o$	0.033***	0.027***	0.147**	0.128***	0.012***	0.014***
	(0.009)	(0.009)	(0.074)	(0.025)	(0.003)	(0.003)

Notes. The table reports the results from OLS regressions on the variables reported at the top. See Section 4 and Appendix B for a description of the outcome and control variables. The number of observations is always $N = 2299$, unless differently specified. Standard errors are clustered at the country-of-origin level, apart from Panel K in which standard errors are clustered at the country-of-origin and child levels. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. **Source**: Own elaborations on LSAC and WVS data.

relevant in the literature on migrants' assimilation and parenting.[28] We carry out similar exercises for the vector of origin-specific controls, as we exclude the entire vector C_o in Panel C, while we add to it the unemployment rate and the fertility rate in Panel D. We also check the robustness of our results to the inclusion of origin-specific parenting values other than the value of obedience, i.e., the importance that origin-specific culture attaches to children's imagination (Panel E) and independence (Panel F). These additional origin-specific indicators neither have explanatory power, nor make any difference for the estimates.

We then mitigate concerns of selective migration discussed for equation (12) above. In Panel G, we include in vector C_o the origin-specific immigration rates to Australia. In this way, we control for the intensity of selection and sorting between each country of origin and Australia.[29] In Panel H, we report estimates based on 1.5 migrant parents only. This group includes $2nd$-generation immigrants and $1st$-generation immigrants who arrived in Australia before the age of 10; as the decision to migrate for them was made by the parents, there is less scope for selection into migration.

In Panels I and J, we show that the results are not sensitive to the number of countries considered; while in the baseline estimates, we kept countries of origin for which we have at least nine observations in LSAC data, we, respectively decrease (at 5 observations) and increase (at twenty observations) this threshold, which induces corresponding changes in sample sizes and the number of origin countries in our data (see Figure 3 above). Finally, in Panel K, we cluster standard errors two-way, by country of origin and child (as each child can have two parents in our data), by implementing the multiway clustering estimation method proposed by Cameron et al. (2011).

We further tackle the issue of selection of migrants in Appendix Table C-3. In Panel A, we perform an additional analysis in which we control for the bilateral emigration

[28] While Chen (2013) shows that the language spoken affects a wide range of economic behaviors (from saving to health-related decisions and retirement), Borjas (2015) reports that English-language proficiency is a strong determinant of migrants' assimilation. Psychological and pedagogical studies indicate that religion and the degree of assimilation in the host country may strongly affect parenting behaviors of immigrant families (Horwath et al., 2008; Mahoney et al., 2001; Frosh, 2004).

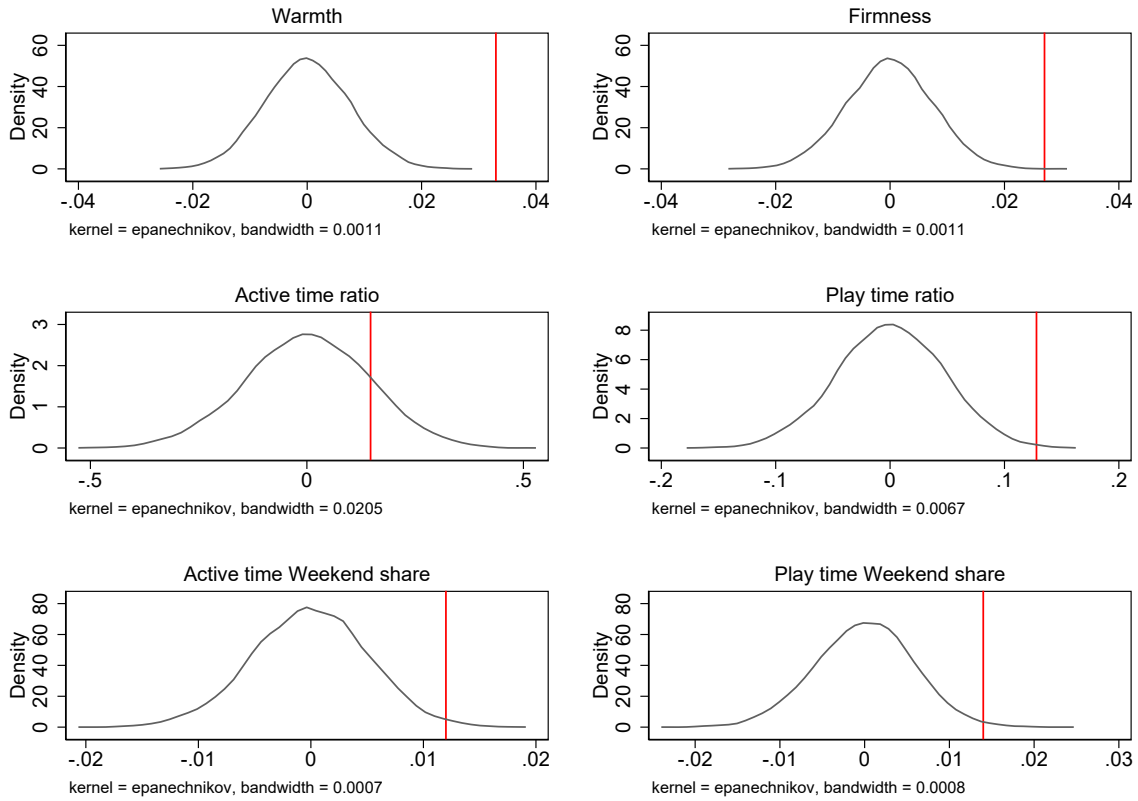
[29] The immigration rates are defined as the stock of migrants from each country of origin divided by the Australian population and refer to the year 2000 (sources: Dumont et al. (2010) and Australian Bureau of Statistics).

rates between each origin country and Australia, taken from the database developed by Marfouk et al. (2009) and defined as the stock of migrants from each country of origin divided by the source countries labor force. In Panels B and C, we drop from the sample the UK and New Zealand, as these two countries of origin together include the 57% of parents in our sample (UK 40%). This may not be related to a selection based on preferences about parenting, but it is likely to derive from the historical connections between the UK and Australia, and between New Zealand and Australia. Despite the fact that few single countries of origin have such weight in the data, results are confirmed as we drop the two countries from the sample, although some coefficients are less precisely estimated. Finally our results are confirmed as we drop potentially outlier countries, which exhibit values of cultural preferences for obedience in the the top or bottom percentile of our sample (results reported in Panel E).

We mentioned already that the empirical approach that underlines the estimation of equations (11) and (12) is not immune to omitted variables. Figure 2 above reassured us regarding the absence of unconditional correlations between parenting culture and other traits e.g. related to environmental, gender, civic culture, happiness or social capital. We move a further step in this direction and perform one placebo exercise which should give us more information on the salience of other omitted variables' concerns in our analysis. In practice, we randomly assign to each migrant parent in our sample a different (thus fake) country of origin. Figure 6 reports the distribution of the estimated coefficient on the six main outcomes of interest, as we performed 10000 replications on each outcome. If our main results were systematically driven by e.g. omitted characteristics not correlated with the (true) country of origin of the migrant, these omitted factors would still be salient after randomization, and the distribution of the estimated coefficients in Figure 6 would be still centered somewhat around our baseline point estimates (the red vertical line in each figure). This does not seem the case here. The distribution of the estimated effects of parenting culture out of the 10000 replications appears centered around zero, well on the left-hand side of the red vertical line. We take this as indirect evidence that estimates in Tables 2 and 3 reflect a true association between culture of origin and

parenting outcomes of immigrants in Australia.[30]

Figure 6
Placebo analysis with random assignment to country of origin.



Notes. Plotted distributions of the estimated effects of parenting culture on the outcome specified in each panel, retrieved by average and standard deviations of the estimated coefficients from 10000 replications, where the country of origin of the migrant is randomized. **Source**: Own elaborations on LSAC and WVS data.

6 Parenting & the Labor Supply of the Household

Thus far, we have not explicitly considered labor supply outcomes in our analysis. Nevertheless, results in the previous section do not seem to suggest that cultural factors may determine a trade-off between parenting and labor supply. Parental engagement manifests itself through a reallocation of parenting tasks away from general care activities,

[30] In order to further exclude that our measure of parenting culture does not capture other (correlated) values at the country-of-origin level, we perform an additional exercise, in which we construct the variable $Value_Obedience_o$ by partialling out from Equation (11) also the traits reported in Figure 2 (one at a time), and then use these modified measures of parenting culture in the baseline analysis. Results do not differ from the ones presented above, and are available upon request from the authors.

and a shift of parenting time from weekdays to the weekend. If any, these effects may leave more space for labor supply.

In this section, we explicitly assess the role of cultural factors for the labor supply decisions of parents. We treat labor supply as the outcome of collective cooperative decisions between parents. To this end, we shift the focus of analysis from the individual to the household. This household-level analysis complements the individual-level analysis developed above, building on the idea that the implications of parenting for labor supply decisions cannot be assessed from a purely individual perspective.

Let us extend the simple theoretical model developed in Section 2 to analyze individual parenting and labor supply outcomes in an intact household, i.e., composed of two parents, f, m, characterized by the following utility functions:

$$U_f = c + \theta_f h_f^{\beta} \quad and \quad U_m = c + \theta_m h_m^{\gamma}. \tag{13}$$

Equation (13) features parents f and m having different values of their parental engagement θ and different marginal utilities of parenting time, as $\beta \neq \gamma$.

The unit of observation is now a 'migrant family', which we define as a family where at least one parent between m and f is a migrant. For expositional simplicity, we omit the subscript o from the notation. Additionally, without loss of generality, we can abstract from the sorting and individual idiosyncratic component of parental engagement (i.e., the second and third (ln) terms in equation (3)), so that θ_m and θ_f describe the origin-specific engagement for the mother and the father, respectively.

The utility of the household is an average of the utilities of the two parents, weighted by the relative bargaining powers α and $(1-\alpha)$ of parents f and m, respectively:

$$U = \alpha U_f + (1-\alpha) U_m = c + \alpha \theta_f h_f^{\beta} + (1-\alpha)\theta_m h_m^{\gamma}, \tag{14}$$

where c is collective household consumption, so the budget constraint is

$$c = (1-h_m)w_m + (1-h_f)w_f, \tag{15}$$

with w_m and w_f being the market wages of the two parents. We can solve the optimization problem of the household and maximize (14) relative to C, h_f, and h_m. From the first-order conditions, we obtain the parental investment of the mother relative to the father as follows:[31]

$$\frac{h_m}{h_f} = \frac{((1-\alpha)\theta_m\gamma/w_m)^{\frac{1}{1-\gamma}}}{(\alpha\theta_f\beta/w_f)^{\frac{1}{1-\beta}}}. \tag{16}$$

Equation (16) can be written in the usual log-linear form (see equation (D-1) in Appendix D.1). We now make the assumption that the household is characterized by one common level of parental engagement θ_{mf}, which can be given by the prevalence of the culture of the mother, the father, or some linear combination of the two. After incorporating the wage functions (D-2) for the mother and the father, equation (16) can be rewritten as follows:

$$ln\left(\frac{h_m}{h_f}\right) = \frac{\gamma-\beta}{(1-\beta)(1-\gamma)} ln(\theta_{mf}) - \widetilde{a}\ e_m + \widetilde{c}\ e_f + \widetilde{z}_f\ A_f - \widetilde{z}_m\ A_m + \widetilde{k}, \tag{17}$$

where coefficients $\widetilde{a}$, $\widetilde{c}$, $\widetilde{z}_m$, $\widetilde{z}_f$, and $\widetilde{k}$ are obtained as combinations of the initial parameters of the utility and wage functions (see Appendix D.1 for details).

In the empirical analysis at the household level, we look at the association between parenting culture and household-level measures of time investment and labor supply based upon equation (17). It should be noted that relative to previous estimates, where the unit of observation was the individual migrant parent, the unit of observation in Table 6 is the migrant family. This has three main implications. First, to deliver sensible predictions regarding household-level interactions, these estimates are based only upon intact families in which both parents are present. Second, by its own definition, a migrant family may also include one native (Australian) parent. Third, we assume that each family has a common level of cultural engagement in parenting activities, shared by both spouses (i.e., θ_{mf} in eq. (17)). In line with views from the cultural economics literature, which shows

[31] There is no change with reference to the baseline model as far as the optimal choice of c is concerned, as the marginal utility of household consumption is still the same as the marginal utility of income.

that mothers have a crucial role in the transmission of cultural traits (see, e.g., Fernández et al., 2004, Rodríguez-Planas and Nollenberger, 2018), we make the assumption that the country-specific parental engagement of the mother carries over to the household. Our choice is supported by the fact that evidence of household-level interactions becomes much weaker if we use the culture of the father as a proxy for household-level engagement instead (see Appendix Table D-2 for the results of the analysis when father's culture is used instead).

Table 6
Value of obedience, parental investment and labor supply: household-level interactions. The cultural trait is the one of the mother.

	(1)	(2)	(3)
	% time of mother	Total time of father	Total time of mother
Panel A. Parental investments during weekdays			
Parental engagement of the household	-0.008	0.363**	-0.153
	(0.006)	(0.145)	(0.344)
Observations	1150	1150	1150
	two-earners family	father employed	mother employed
Panel B. Household labor supply, extensive margin			
Parental engagement of the household	0.014	-0.008***	0.022
	(0.014)	(0.003)	(0.014)
Observations	1150	1150	1150
	% of hours worked by the mother	hours of work father	hours of work mother
Panel C: Household labor supply			
Parental engagement of the household	0.011*	-0.242	0.729**
	(0.005)	(0.280)	(0.322)
Observations	1150	1150	1150

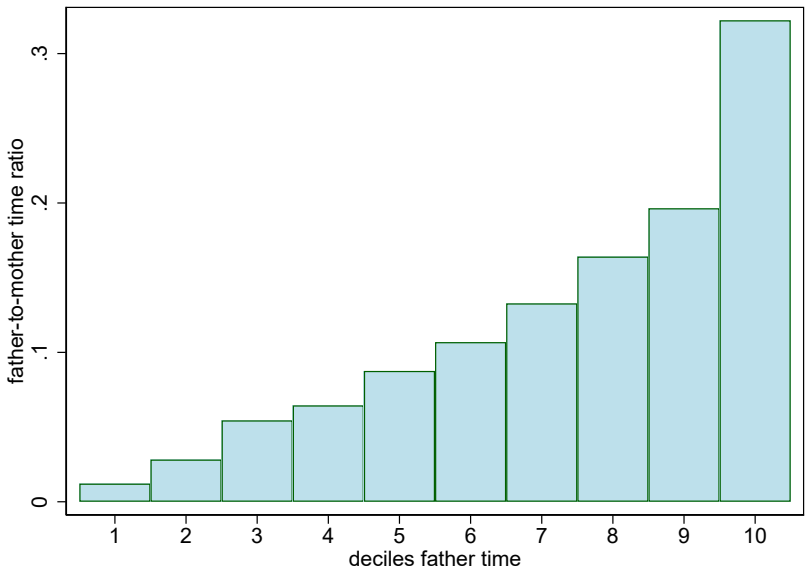
Notes: The table reports the results from OLS regressions on the variables reported at the top of each panel. Each cell refers to a different regression, whose regressor of interests is the value of obedience in the country of origin of the mother. The regressions use a sample of intact households (i.e. for which we observe both mother and father), in which at least one parent is a migrant. The dependent variables for parental investments are the percentage of time the child spends with the mother (over total parental time), the total time the child spends with the father, and the total time the child spends with the mother. The dependent variables for labor supply at the extensive margin are the probability that both mother and father work (*two-earners family*), and the probability that the father or the mother works, respectively. The dependent variables for labor supply at the intensive margin are the percentage amount of hours the mother works (over the total number of hours worked by the parents), the total number of hours worked by the father, and the total number of hours worked by the mother. For a list of regressors used in the analysis, see the footnote to Table D-1 in Appendix D.2. **Source**: own elaborations on LSAC and WVS data.

Table 6 presents the main results. In Panel A, we present estimates of household engagement in parental activities (based on the culture of the mother) on the allocation of parental investments during weekdays. The results suggest that a one standard deviation increase in household engagement increases the parental investment of the father by approximately 22 minutes ($=0.36 * 60$) during weekdays. The effect on the parental investment of the mother is not statistically significant. However, if any, the coefficient

is negative both on the share of the mother in total parental time of the household (see Column (1)) and in the total parenting time of the mother during weekdays (see Column (3)). In Panel B, we present estimates of household parenting culture on the extensive margin of the labor supply of household members. These estimates show that a one standard deviation increase in the value of obedience is associated with a 0.8 p.p. decrease in the employment probability of the father. It also displays a 2.2 p.p. increase in the employment probability of the mother, which however is not precisely estimated. Finally, in Panel C, we present estimates for the intensive margin of the household's labor supply. The results show that a one standard deviation increase in parental engagement is associated with a 1 p.p. increase in the share of hours of work supplied by the mother within the household. This is driven by a weekly increase of working hours by the mother of 43.8 minutes ($= 0.73 * 60$), while the effect on the hours of work of the father is a negative, non-significant one. Overall, this evidence suggests that culture-specific parental engagement of the household is associated with a reallocation of parenting vs. labor supply tasks between the father and the mother. This reallocation makes the distribution more gender egalitarian: on average, parental engagement in the household induces fathers to increase parenting time during the week and mothers to raise their labor supply.

Results in Table 6 can be rationalized in terms of equation (17), which postulates a positive effect of parental engagement on the allocation of parental time of the father if $\beta > \gamma$, i.e., if the father has a higher marginal utility from time spent with children relative to the mother. This, in turn, allows the mother to raise her labor supply. While we cannot directly test the hypothesis $\beta > \gamma$, for this condition to be consistent with the standard principle of diminishing marginal utilities in consumption (of parenting time in our case), we shall observe mothers having a larger stock of parental time relative to fathers. Figure 7 reports the father-to-mother time ratio at deciles' thresholds of of the distribution of fathers' parenting time during weekdays. The graph confirms that the ratio between a father's and a mother's time is well below 1. Even as we enter the top decile of the distribution, fathers' parenting time is only the 32% of mothers' time.

Figure 7
Father-to-mother time ratio by deciles of the distribution of father's time.



Notes. The figure reports the threshold value of the ratio between a father's and a mother's time for each decile of the distribution of father's time with the child during the weekdays. **Source**: Own elaborations on LSAC and WVS data.

The gender egalitarian re-allocation of parenting tasks induced by parental engagement (cfr. Table 6, Panel A) does not seem large enough to rebalance the unequal distribution presented in Figure 7. As such, we may expect that an increase in the labor supply of mothers could match to an increase in external childcare. Figure D-1 in the Appendix displays some evidence about effects of parenting culture on non-parental childcare. In LSAC data, we observe the number of hours the child spends in formal settings (e.g. school, kindergarten, pre-school, or day care), and whether (in addition to formal care) the child is cared for by relatives or grandparents, or babysitters. Consider that, given the age of the children in our sample, nearly all of them attend some forms of formal schooling. We observe that the value of obedience in the country of origin is not associated with a higher amount of time in formal child care. However we find a positive and statistically significant effect on the likelihood of care from babysitters, which may be a complement to parenting time of fathers during the week when mothers raise their labor supply.

7 Concluding Remarks

This paper provides first evidence that parental decisions about the allocation of time and the quality of parent-to-child interactions are affected by an individual's culture of origin, transmitted from previous generations. In particular, we found that parents coming from cultures featuring a more direct involvement in the life of their children are more likely to be affectionate and warm parents, ready to enact discipline. At the same time these parents are more likely to spend active time with their young children, and concentrate their investment on active time during weekends, particularly dedicated to playtime. This suggests that the cultural channel does not necessarily affect the quantity of time spent by parents with children but rather its quality in a broad sense. The analysis at the household level reveals that cultures of origin characterized by greater parental engagement lead to a more gender-egalitarian reallocation of time activities within the household, with mothers increasing their labor supply and fathers devoting more time to child care.

Our results bear important implications related to the intergenerational transmission of values and behaviors among migrant parents. In particular, as long as parental investment decisions affect children's development of cognitive and noncognitive skills, this intergenerational transmission of values and behaviors may have long-lasting effects on the lives of children. From a policy perspective, our findings suggest that it is important for policy makers to take into account that the way people react to policies is typically shaped by individual preferences, which to some extent have common cultural roots. Accordingly, the same policy change in e.g. parental leave or childcare policy, may induce different societal responses depending on the prevailing set of local preferences.

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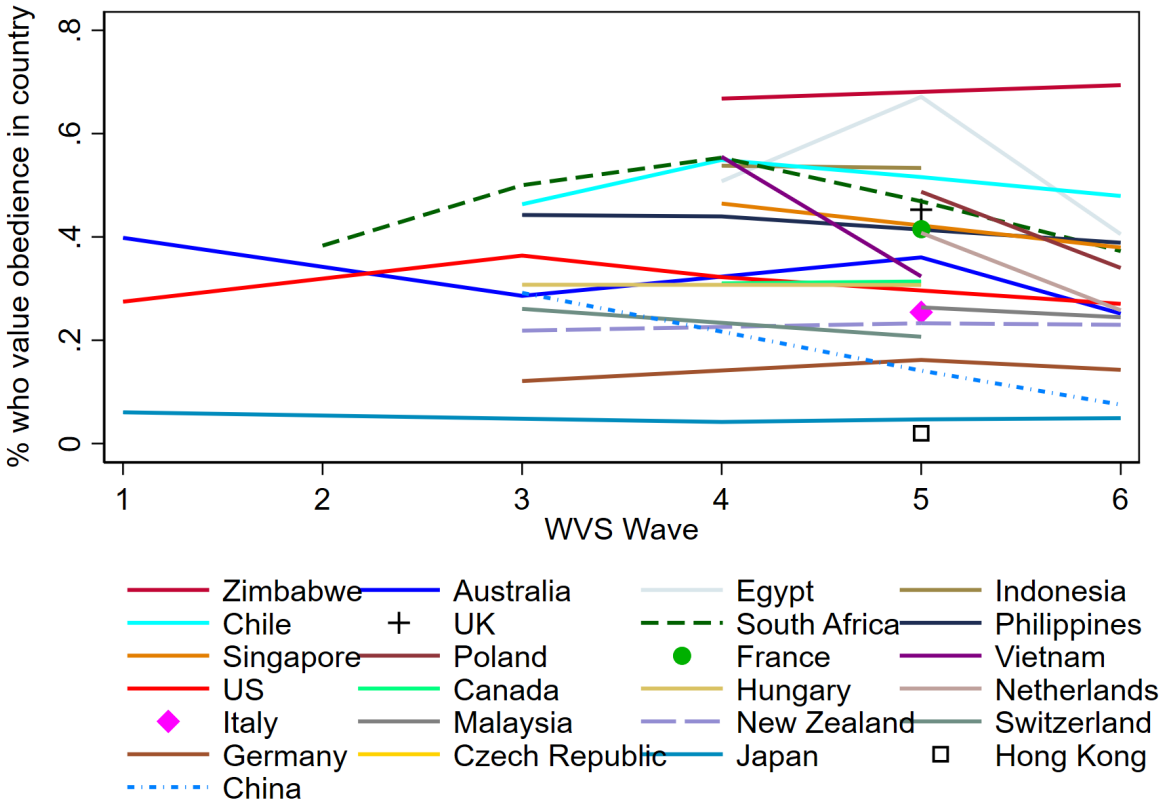
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Online Appendix - not intended for publication

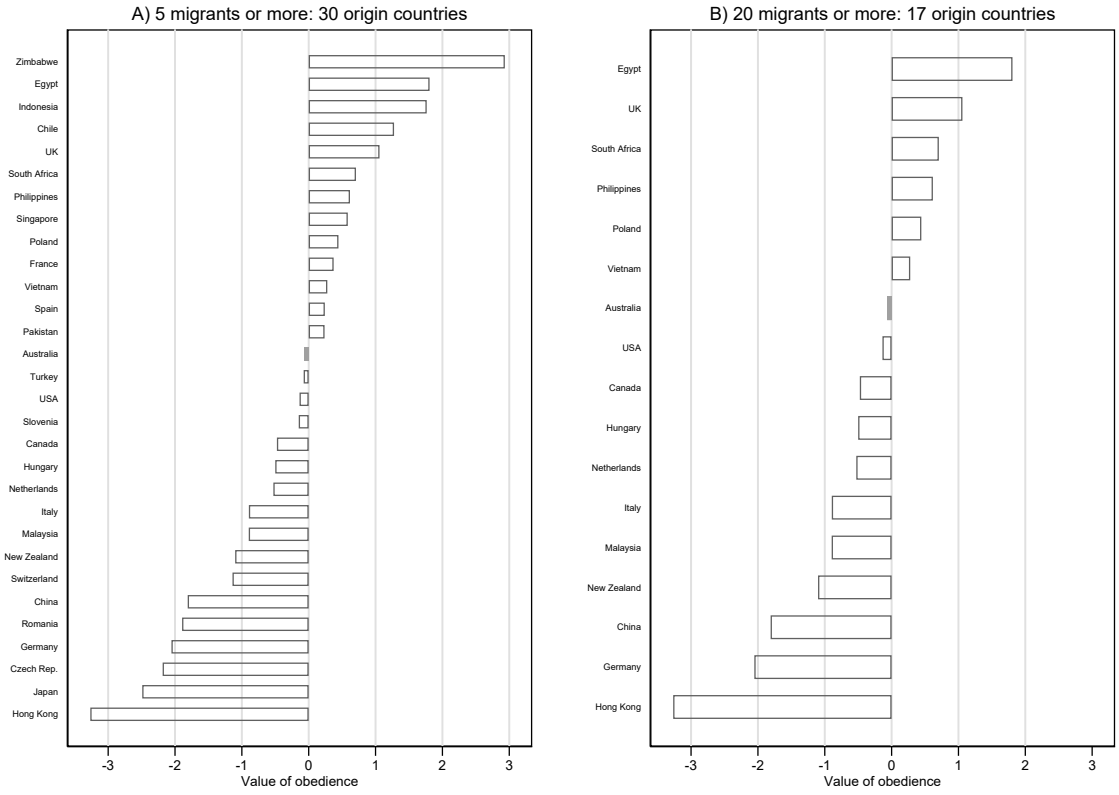
Appendix A Additional figures

Figure A-1
Unconditional means of Value of obedience across origin countries by WVS wave



Notes. The figure reports the share of individuals resident in each country who values obedience between Wave 1 (covering period 1981-1984) and wave 6 (covering period 2010-2014). **Source**: Own elaborations on WVS data.

Figure A-2
Value of obedience across origin countries: 5 vs. 20 migrant observations



Notes. The figures report the cross-country distribution of $Value_Obedience_o$ in the sample based on countries of origin with more than 5 observations (Panel A) and in the sample based on countries of origin with more than twenty observations (Panel B). **Source**: Own elaborations on WVS data.

Appendix B LSAC data

The Longitudinal Study of Australian Children (LSAC hereafter) starts in 2003 and is gathered every two years. LSAC surveys children born in 2003-2004 (*B-cohort*), who are observed since their first year of age, and children born in 1999-2000 (*K-cohort*), who are observed since their 4-5 years of age. LSAC examines a broad range of questions about children's well-being over the life course, in relation to topics such as parenting, family, peers, education, child care and health.

For our analysis, we focus on mothers and fathers of children belonging to both cohorts, and use questions on children's time allocation, parenting attitudes and behaviors, and demographic characteristics of the child (gender, number of siblings and birth order) and of the parent (gender, marital status, age at birth of the sampled child, level of education and region of residence). Importantly, we use the information on the country of birth of the child, the parents, and the grandparents, to identify first- or second-generation migrant parents. Demographic characteristics are taken from Wave 1 in 2003, when the B-cohort children were aged 0-1 and the K-cohort children were aged 4-5. Parenting behaviors are measured when children of both cohorts are aged 4-5: this occurs in Wave 3 (gathered in 2008-2009) for the B-cohort and in Wave 1 (2003-2004) for the K-cohort.

Regarding the parenting outcomes, we consider two dimensions, which are both measured when the child is aged 4-5. The first one refers to the quality of parent-child interactions, measured as the degree with which the parent shows warmth or firmness, or induces child's reasoning when carrying over parental activities. LSAC data provides several questions asking the frequency with which certain events related to parent-child interactions occur. For warmth, the questions are the following: "Thinking about the study child over the last six months, how often did you...(i) Hug or hold this child for no particular reason; (ii) Tell this child how happy he/she makes you; (iii) Have warm, close times together with this child; (iv) Enjoy listening to this child and doing things with him/her; (v) Express affection by hugging, kissing and holding this child". For firmness: "When parents spend time with their children, sometimes things go well and sometimes they don't. How often does the following happen? (i) When you give this

child an instruction or request to do something, how often do you make sure that he/she does it? (ii) If you tell this child he/she will get punished if he/she does not stop doing something, but he/she keeps doing it, how often will you punish him/her? (iii) How often does this child get away with things that you feel should have been punished? (iv) How often is this child able to get out of punishment when he/she really sets his/her mind to it? (v) When you discipline this child, how often does he/she ignore the punishment?". For reasoning: "(i) How often do you explain to this child why he/she is being corrected?; (ii) How often do you talk it over and reason with this child when he/she misbehave? ". Importantly, the questions are the same for the B-cohort and for the K-cohort. We define, for each parent and for each dimension, the average over the frequency of the corresponding events, which ranges between 1 (*Never*) and 5 (*Always*). From each set of items we then define binary variables indicating whether the levels of *warmth*, *firmness* and *reasoning* in parenting are larger than the median, defined over the entire sample of migrants in LSAC data, and not over the final sample considered in the analysis.

The second dimension refers to the amount of time the parent spends with the child in several activities, and is taken from a child's time use diary module, which provides information on the type of activity performed and on the person with whom the activity was done. We thus define the total weekly time spent by the parent *alone* with the child, and we also distinguish the amount of weekly time spent in *play*, *educational activities*, using *media*, and in *general care*. *Play* time includes time spells in which the child performed active/physical exercises or quiet free play; *Educational* time includes activities like reading a story, talking/singing, drawing or colouring; *Media* time includes listening to tapes/CDs and music, using computer, or watching TV; *general care* time includes eating, drinking, being fed, bathing, dressing, hair care, health care. In the analysis, we label the activities *Play*, *Media* and *Educational* as *Active*. For the empirical analysis, we define several outcome variables referred to time investments:

- Total number of hours per week, by distinguishing between weekdays and weekend, and by type of activity;
- Ratios of time spent in *active* time (i.e., play, educational, media) over total time

in general care per week;

- Shares of time (total or by activity) spent by the parent with the child during the weekend over the total weekly time.

The control variables at the individual level are defined as follows:

- *High-educated parent* is a dummy equal to 1 if the parent has obtained a secondary education degree.

- *Young parent (at birth)* is a binary variable equal to one if the parent, at the birth of the child, was younger than the 25th percentile of the corresponding gender distribution, which is 27 years for mothers and 31 years for fathers; these values are taken from the entire LSAC sample, before our sample selection;

- *Both parents are migrants* indicates if two parents in the sample are parents of the same child;

- *Child born in 2003/2004* is a binary variable indicating whether the child was born in 2003/2004 and belongs to the B-cohort

- *Child is first born* and *Child has no siblings* indicates whether the sampled child is first born and whether he/she has no siblings, respectively;

- *Intact household* indicates that the parents live together;

- *Family lives in Capital region* indicates whether the household resides in the region of Australian Capital Territory (Canberra) or New South Wales.

Sample selection. For the analysis, we consider children of biological migrant parents sampled for the B- and K- cohorts in LSAC data. The main issue that substantially lowers the final sample we can actually use is the availability of time-diary (TD) data. For the B-cohort, out of 4386 children interviewed in Wave 3 (for which we may get information on parenting measures), the TD module samples only 2933, and we remain with a

sample of 2455 children who filled a TD in a weekday and a TD in a weekend day.[32] For the K-cohort, out of 4983 children sampled in Wave 1, only 3728 were sampled for the TD module and, after selecting those with valid TD in a weekday and one in a weekend day, with less than five hours of missing activity, we end up with 2350 children.[33] After appending the B- and the K-cohorts together, and after dropping children whose parents are native or without information on country of birth, we end up with a sample of 4963 children, of which only 2545 have a valid TD information.

For the analysis at the parent level, we construct a parents' dataset by deriving information on mothers and fathers from the children's final sample, and then by appending them together. This way, we end up with a sample of 9926 parents. The final sample used for the analysis includes biological parents, without missing data on the outcomes and regressors used in the analysis, and for which we can match their country of origin with our WVS data on parenting culture, and corresponds to 2356 individuals. As specified in the text, the baseline analysis is performed on the sample of parents from countries of origin with more than nine observations ($N = 2299$). Table B-1 reports the distribution of number of observations per country in the final sample with $N = 2356$.

[32]For the B-cohort children, we drop 15 children because they did not fill a time-diary module at all, 359 because they fill only one TD instead of two, 8 because they fill two modules in the same day or in the same part of the week (either weekend or weekday); finally, we drop time diaries with more than five hours of missing information on the activity performed (see e.g. Australian Bureau of Statistics (2022)).

[33]For the K-cohort children, 681 children fill only one TD instead of two, 606 fill two modules in the same day or in the same part of the week (either weekend or weekday), and for 91 the information on the activity performed is missing for more than five hours.

Table B-1
Number of parents by country of origin in the final sample

Country name	Numb. Obs.	Baseline Sample
Romania	5	
Spain	5	
Turkey	5	
Pakistan	6	
Slovenia	8	
Czech Republic	9	✓
Japan	9	✓
Singapore	9	✓
Chile	13	✓
Zimbabwe	13	✓
France	14	✓
Switzerland	14	✓
Indonesia	18	✓
Hong Kong	21	✓
Egypt	22	✓
Hungary	23	✓
Poland	25	✓
Vietnam	33	✓
Philippines	36	✓
Canada	37	✓
States of America	39	✓
South Africa	45	✓
Malaysia	49	✓
China	62	✓
Germany	118	✓
Netherlands	171	✓
Italy	211	✓
New Zealand	238	✓
United Kingdom	1070	✓

Source: Own elaborations on LSAC and WVS data.

Appendix C Additional results: analysis at the parent-level

Table C-1
Culture of origin and time allocation of parental investment: general care versus other activities (education, media, play)

	Total weekly hours		Active time ratio (relative to childcare)			
	(1) child activities and childcare	(2) childcare	(3) all activities	(4) education	(5) media	(6) play
Value_Obedience$_o$	-0.166	-0.157*	0.147*	0.002	0.018	0.128***
	(0.167)	(0.086)	(0.081)	(0.069)	(0.021)	(0.024)
Parent is 1st-generation migrant	-0.888	-0.206	-0.050	-0.013	-0.097	0.060
	(1.167)	(0.398)	(0.319)	(0.197)	(0.101)	(0.101)
High-educated parent	-0.749	-0.651	0.039	0.253	-0.042	-0.172*
	(0.515)	(0.473)	(0.234)	(0.227)	(0.080)	(0.086)
Young parent (at birth)	-1.348	-0.417	-0.088	-0.311	-0.007	0.230
	(0.862)	(0.352)	(0.424)	(0.374)	(0.097)	(0.136)
Parent is mother	19.380***	8.993***	-1.700***	-0.455**	-0.367***	-0.879***
	(0.504)	(0.283)	(0.205)	(0.177)	(0.089)	(0.172)
Child born in 2003/2004	-0.107	-0.728***	-0.188	-0.394	-0.109	0.315**
	(0.540)	(0.241)	(0.640)	(0.424)	(0.111)	(0.134)
Child is male	0.533	-0.219	0.120	-0.154	0.128***	0.145*
	(0.795)	(0.395)	(0.205)	(0.166)	(0.045)	(0.078)
Child is first born	1.237	-0.133	0.548*	0.375*	0.044	0.129
	(0.740)	(0.373)	(0.285)	(0.212)	(0.063)	(0.175)
Child has no siblings	-0.603	-0.125	-0.605*	-0.506*	-0.131	0.032
	(0.518)	(0.269)	(0.346)	(0.294)	(0.077)	(0.087)
Family lives in Capital region	0.308	0.474*	-0.426**	-0.425*	-0.189***	0.188
	(0.601)	(0.262)	(0.182)	(0.234)	(0.046)	(0.132)
Both parents are migrants	-1.892***	-1.056***	0.919*	0.406	0.155**	0.357**
	(0.538)	(0.259)	(0.447)	(0.345)	(0.072)	(0.140)
Intact family	-12.317***	-5.786***	0.960***	0.604***	0.173*	0.183***
	(2.003)	(0.702)	(0.279)	(0.192)	(0.094)	(0.063)
Tot LFP	0.023	0.014	0.040	0.036	0.000	0.004
	(0.061)	(0.028)	(0.030)	(0.022)	(0.007)	(0.010)
GDP pc/10000	0.498	0.187	-0.088	0.004	-0.067	-0.024
	(0.368)	(0.176)	(0.117)	(0.094)	(0.048)	(0.044)
Prop. Tertiary Edu	-0.012	-0.010	-0.011	-0.018	0.004	0.002
	(0.045)	(0.017)	(0.018)	(0.013)	(0.005)	(0.005)
Constant	20.146***	9.792***	1.628	-0.223	1.010**	0.841
	(5.145)	(2.326)	(1.658)	(1.227)	(0.411)	(0.656)
Observations	2299	2299	2299	2299	2299	2299

Notes. The table reports the results from OLS regressions on the variables reported at the top. See Appendix B for a description of the outcome and control variables. Standard errors are clustered at the country-of-origin level. Significance levels: *** p<0.01, ** p<0.05, * p<0.1.
Source: Own elaborations on LSAC and WVS data.

Table C-2
Country-of-origin value of obedience and timing of parental investment: weekdays versus weekends

	Total weekly hours		Weekend share (of total weekly hours)				
	(1) during weekdays	(2) during weekend	(3) total weekly hours	(4) active time	(5) education	(6) media	(7) play
Value_Obedience$_o$	-0.341**	0.175**	0.008***	0.012***	0.007*	0.007	0.014***
	(0.124)	(0.065)	(0.002)	(0.003)	(0.004)	(0.005)	(0.003)
Parent is 1st-generation migrant	-0.469	-0.418*	-0.012	-0.023*	0.006	-0.029**	-0.023**
	(0.975)	(0.242)	(0.012)	(0.013)	(0.012)	(0.011)	(0.010)
High-educated parent	-0.570	-0.179	0.015	0.026	0.026	-0.003	0.018
	(0.557)	(0.326)	(0.016)	(0.018)	(0.015)	(0.015)	(0.023)
Young parent (at birth)	-1.523**	0.175	0.041***	0.040***	0.020*	0.017	0.021
	(0.696)	(0.347)	(0.014)	(0.013)	(0.011)	(0.014)	(0.016)
Parent is mother	17.387***	1.993***	-0.270***	-0.206***	-0.040**	-0.029***	-0.097***
	(0.451)	(0.228)	(0.018)	(0.014)	(0.018)	(0.009)	(0.016)
Child born in 2003/2004	0.150	-0.258	-0.004	-0.015	0.002	-0.008	-0.013
	(0.516)	(0.159)	(0.008)	(0.010)	(0.010)	(0.010)	(0.016)
Child is male	0.617	-0.085	-0.018*	-0.026**	-0.024*	-0.003	-0.008
	(0.639)	(0.213)	(0.009)	(0.009)	(0.012)	(0.012)	(0.014)
Child is first born	0.724	0.513	-0.010	-0.000	0.036*	0.000	0.001
	(0.563)	(0.354)	(0.007)	(0.012)	(0.017)	(0.013)	(0.013)
Child has no siblings	-0.302	-0.301	-0.002	0.019	0.014	0.010	0.013
	(0.444)	(0.244)	(0.010)	(0.013)	(0.015)	(0.009)	(0.013)
Family lives in Capital region	0.129	0.179	0.008	0.009	0.013	0.000	0.012
	(0.541)	(0.173)	(0.015)	(0.012)	(0.014)	(0.010)	(0.013)
Both parents are migrants	-1.098**	-0.794***	-0.010	-0.020	-0.009	-0.020	-0.018*
	(0.394)	(0.198)	(0.010)	(0.012)	(0.016)	(0.015)	(0.009)
Intact family	-4.540**	-7.777***	-0.087***	-0.104***	-0.058**	-0.130***	-0.184***
	(1.651)	(0.709)	(0.010)	(0.019)	(0.026)	(0.027)	(0.018)
Tot LFP	0.027	-0.004	-0.000	-0.000	0.000	-0.000	0.001
	(0.046)	(0.022)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
GDP pc/10000	0.475	0.024	-0.011**	-0.014**	-0.005	-0.002	-0.000
	(0.283)	(0.123)	(0.005)	(0.005)	(0.006)	(0.006)	(0.007)
Prop. Tertiary Edu	-0.024	0.012	0.002***	0.002***	0.000	0.001**	0.001*
	(0.035)	(0.013)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Constant	7.909**	12.237***	0.617***	0.564***	0.245***	0.354***	0.462***
	(3.493)	(2.089)	(0.060)	(0.076)	(0.079)	(0.096)	(0.071)
Observations	2299	2299	2299	2299	2299	2299	2299

Notes. The table reports the results from OLS regressions on the variables reported at the top. See Appendix B for a description of the outcome and control variables. Standard errors are clustered at the country-of-origin level. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. **Source**: Own elaborations on LSAC and WVS data.

Table C-3
Sensitivity: Selection into migration and over-representation of migrant populations

	Child interactions		Active time ratios		Weekend time share	
	(1) warmth	(2) firmness	(3) all activities	(4) play	(5) all activities	(6) play
Panel A: Control for emigration rates						
Value_Obedience$_o$	0.032***	0.024***	0.149*	0.136***	0.010***	0.016***
	(0.010)	(0.008)	(0.080)	(0.027)	(0.003)	(0.004)
Observations	2272	2272	2272	2272	2272	2272
Panel B: Drop UK						
Value_Obedience$_o$	0.066***	0.055***	0.077	0.150**	0.006	0.013*
	(0.011)	(0.013)	(0.209)	(0.066)	(0.008)	(0.007)
Observations	1229	1229	1229	1229	1229	1229
Panel C: Drop UK and New Zealand						
Value_Obedience$_o$	0.066***	0.059***	0.109	0.170**	0.003	0.013
	(0.012)	(0.014)	(0.199)	(0.068)	(0.008)	(0.008)
Observations	991	991	991	991	991	991
Panel D: Drop origin countries with 10- migrants						
Value_Obedience$_o$	0.033***	0.023***	0.129	0.127***	0.011***	0.015***
	(0.009)	(0.008)	(0.084)	(0.025)	(0.003)	(0.003)
Observations	2272	2272	2272	2272	2272	2272
Panel E: Drop if V.Obedience $\leq 1pctile$ ***or*** $\geq 99pctile$						
Value_Obedience$_o$	0.031***	0.021**	0.119	0.112***	0.015***	0.013***
	(0.010)	(0.009)	(0.089)	(0.027)	(0.003)	(0.003)
Observations	2234	2234	2234	2234	2234	2234

Notes. The table reports the results from OLS regressions on the measures of time investments at the top, in which the regressor of interests is the value of obedience in the parent's country of origin. Each panel reports the results from a different specification. Panel A reports an analysis in which we control (in addition to the baseline control variables listed in Table 1) for the bilateral emigration rates between each origin country and Australia, taken from the database developed by Marfouk et al. (2009) and defined as the stock of migrants from each country of origin divided by the source countries labor force. Panels B-C report the results of regressions in which we drop UK or UK and New Zealand. Panel D only considers countries of origin with more than 10 observations. Panel E drop countries with value of obedience below the first pctile or above the 99 pctile. Standard errors are clustered at the country level. Significance levels: *** p<0.01, ** p<0.05, * p<0.1. **Source**: Own elaborations on LSAC and WVS data.

Appendix D Household-level analysis

Appendix D.1 Model of household-level interactions

Equation (16) can be written in the usual log-linear form:

$$ln\left(\frac{h_m}{h_f}\right) = \frac{1}{1-\beta}ln(w_f) - \frac{1}{1-\gamma}ln(w_m) - \frac{1}{1-\beta}ln(\theta_f) + \frac{1}{1-\gamma}ln(\theta_m) + \widetilde{k} \tag{D-1}$$

where $\widetilde{k} = \frac{ln(1-\alpha)+ln(\gamma)}{1-\gamma} - \frac{ln(\alpha)+ln(\beta)}{1-\beta}$. The wage functions of father and mother are:

$$\begin{aligned} ln(w_m) &= a(e_m) + b(A_m) \\ ln(w_f) &= c(e_f) + d(A_f). \end{aligned} \tag{D-2}$$

Equation (17) in the main text obtains from equation (D-1), after incorporating wage functions (D-2), provided that the household shares a common engagement of parenting activities $\theta_m = \theta_f = \theta_{mf}$. The coefficients of equation (17) are obtained as the following transformations $\widetilde{a} = \frac{a}{1-\gamma}$, $\widetilde{c} = \frac{c}{1-\beta}$, $\widetilde{z_f} = \frac{d}{(1-\beta)}$, and $\widetilde{z_m} = \frac{b}{(1-\gamma)}$.

Appendix D.2 Additional tables on the analysis at the household level

Table D-1
Descriptive statistics of the sample of intact households

	Mean	SD	Min	Max	N
Panel A. Control variables					
Mother is 1st-gen. migrant	0.278	0.448	0.000	1.000	1150.000
High-educated mother	0.779	0.415	0.000	1.000	1150.000
Young mother (at birth)	0.167	0.373	0.000	1.000	1150.000
Child born in 2003/2004	0.541	0.499	0.000	1.000	1150.000
Child is male	0.541	0.499	0.000	1.000	1150.000
Child is first born	0.453	0.498	0.000	1.000	1150.000
Child has no siblings	0.571	0.495	0.000	1.000	1150.000
Family lives in Capital region	0.310	0.463	0.000	1.000	1150.000
Panel B. Outcome variables					
% time of mother (weekdays)	0.780	0.282	0.004	0.997	1150.000
Total time father (weekdays)	4.887	7.763	0.250	62.750	1150.000
Total time mother (weekdays)	21.971	15.943	0.250	71.500	1150.000
Two-earners family	0.664	0.472	0.000	1.000	1150.000
Father employed	0.979	0.143	0.000	1.000	1150.000
Mother employed	0.685	0.465	0.000	1.000	1150.000
% hours worked by the mother	0.227	0.230	0.000	1.000	1150.000
Hours of work Father	45.203	13.799	0.000	114.000	1150.000
Hours of work Mother	14.959	15.192	0.000	80.000	1150.000

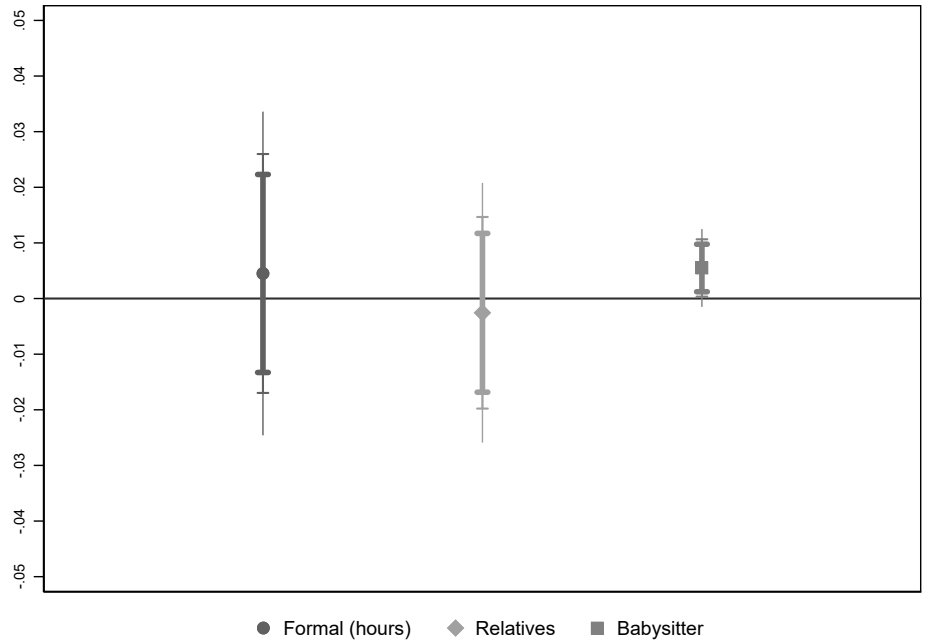
Notes: The table reports descriptive statistics on the sample of intact households in which at least a parent is a migrant. The variables reported in Panel A have been defined in Table 1, Panel E, in the paper and are constructed at the household level. The outcome variables reported in Panel B are defined as follows. The dependent variables for parental investments are the percentage of time the child spends with the mother during weekdays (over total parental time), the total time the child spends with the father, and the total time the child spends with the mother. The dependent variables for labor supply at the extensive margin are the probability that both mother and father work (*two-earners family*), and the probability that the father or the mother works, respectively. The dependent variables for labor supply at the intensive margin are the percentage amount of hours the mother works (over the total number of hours worked by the parents), the total number of hours worked by the father, and the total number of hours worked by the mother. **Source**: own elaborations on LSAC and WVS data.

Table D-2
Value of obedience, parental investment and labor supply: household-level interactions. The cultural trait is the one of the father.

	(1)	(2)	(3)
	% time of mother	Total time of father	Total time of mother
Panel A. Parental investments during weekdays			
Parental engagement of the household	0.003	0.006	0.844
	(0.007)	(0.183)	(0.553)
Observations	1150	1150	1150
	two-earners family	father employed	mother employed
Panel B. Household labor supply, extensive margin			
Parental engagement of the household	0.002	-0.002	0.004
	(0.008)	(0.003)	(0.009)
Observations	1150	1150	1150
	% of hours worked by the mother	hours of work father	hours of work mother
Panel C: Household labor supply			
Parental engagement of the household	0.005	-0.475	0.107
	(0.004)	(0.483)	(0.284)
Observations	1150	1150	1150

Notes: The table reports the results from OLS regressions on the variables reported at the top of each panel. Each cell refers to a different regression, whose regressor of interests is the value of obedience in the country of origin of the father. The regressions use a sample of intact households (i.e. for which we observe both mother and father), in which at least a parent is a migrant. The country of origin assigned to each family is the one of the father. For the definition of the outcome and control variables, see the footnote to Table D-1 in Appendix Appendix D.2.
Source: own elaborations on LSAC and WVS data.

Figure D-1
Value of obedience and non-parental child care use



Notes. The figure reports the coefficients (and confidence intervals) of $ParentalEngagement_o$ from OLS regressions on a set of variables measuring the extent of non-parental childcare use: $Form(hours)$ indicates the number of hours per week (divided by 10) the child is cared for in a formal setting; *Relatives* is a dummy variable equal to one if the child is cared for by relatives or grandparents; *Babysitter* is a dummy variable equal to one if the child is care for by a nanny. See the footnote to Table D-1, Panel A for a list of control variables used in the regressions. Standard errors are clustered at the country-of-origin level. **Source**: Own elaborations on LSAC and WVS data.