Long-Term Orientation and Educational Performance[1]

David Figlio, Northwestern University and NBER

Paola Giuliano, UCLA and NBER

Umut Özek, American Institutes for Research

Paola Sapienza, Northwestern University and NBER

Abstract

We use remarkable population-level administrative education and birth records from Florida to study the role of Long-Term Orientation on the educational attainment of immigrant students living in the US. Controlling for the quality of schools and individual characteristics, students from countries with long term oriented attitudes perform better than students from cultures that do not emphasize the importance of delayed gratification. These students perform better in third grade reading and math tests, have larger test score gains over time, have fewer absences and disciplinary incidents, are less likely to repeat grades, and are more likely to graduate from high school in four years. Also, they are more likely to enroll in advanced high school courses, especially in scientific subjects. Parents from long term oriented cultures are more likely to secure better educational opportunities for their children. A larger fraction of immigrants speaking the same language in the school amplifies the effect of Long-Term Orientation on educational performance. We validate these results using a sample of immigrant students living in 37 different countries.

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Introduction

Several papers find a remarkable correlation between individual educational achievement and family socioeconomic background in the US and around the world (see, e.g., Black, Devereux, and Salvanes, 2005; Chevalier, Denny, and McMahon, 2009; Fryer and Levitt, 2004; Hanushek and Woessmann, 2010; Hertz et al, 2007; Reardon and Galindo, 2009; and Rothstein and Wozny, 2013). To understand the strong persistence in educational achievement across generations, several economists have tried to examine the direct effect on education of some specific components of parental socioeconomic background: parental education, income, and wealth.[2] This research has found at most moderately-sized (and often zero) causal effects, suggesting that much of the correlation between parents' and children's educational outcomes must be due to other family characteristics, including access to high quality schools (Rouse and Barrow, 2006), or inherited abilities and traits (Krapohl et al., 2014).

Parents transmit to their children not only human capital, income, wealth, and genetic traits but also a specific set of cultural values (Bisin and Verdier, 2001). This paper follows the literature on cultural transmission and explores the importance of a distinct cultural trait transmitted from parents to children as an alternative and complementary source of persistence in educational outcomes across generations. Research in psychology suggests that the ability to defer gratification and to exert self-control fosters educational attainment and cognitive competence (Mischel and Ebbese, 1970; Mischel et al., 1988; Mischel et al., 1989; Shoda et al., 1990). In a recent paper, Galor and Ozak (2016) show a remarkable persistence over time of preferences for delayed gratification and trace their origin to geographical conditions that affected the return to agricultural investment. Furthermore, Galor and Ozak (2016) show that, across geographical areas, preferences for delayed gratification correlate, not only with education, but also with technology adoption and savings. Given that time preferences and delayed gratification correlate with educational attainment at the macro level, in this paper we study whether the transmission of these preferences across generations can explain individual educational attainment and possibly account for the intergenerational persistence observed in the literature.

To investigate this hypothesis, we face several challenges. First, if parents share a culture of high educational attainment, they are likely to be highly educated and, thus, more likely to have high

[2] For example, Black, Devereux, and Salvanes (2005) study the effect of an exogenous mandatory change in parental education on their children educational outcomes and cognitive abilities. Similarly, Dahl and Lochner (2012) study the effect of exogenous changes in parental income while Bleakley and Ferrie (2016) investigate the effect of an exogenous change in wealth.

income and live in areas with better schools, therefore hindering our ability to distinguish between a transmission of cultural values and a direct effect of parental education or income. Second, cultural determinants of educational attainment cannot be distinguished from other institutional and economic factors using cross-country aggregate data. For example, a culture that values delayed gratification could foster high quality of schools and other educational institutions. If that is the case, we would not be able to distinguish whether the effect of higher education attainment is due to better institutions or to children's attitudes of delayed gratification.

To address these concerns we focus on immigrants in the US and in other countries. We link immigrants to their country of origin cultural measure of the willingness to forego immediate utility for future gratification. Studying immigrants yields several key advantages. First, before fully assimilating, immigrants are more likely to maintain a strong connection with the culture of their country of origin. Second, many immigrants often fall in the lowest range of the income distribution and do not come from privileged backgrounds compared to other residents of their new countries. As such, they share schools with students of similar socioeconomic background, making it easier to separate the effects of culture from other school characteristics and parental socioeconomic background. Following Fernandez and Fogli (2009) and Giuliano (2007), our identification strategy relies on the opportunity to observe immigrant children from different cultures in the same location (same school), thus distinguishing between the cultural factors from other institutional and economic factors. However, this is the first paper that studies cultural transmission by focusing on children's outcomes, thus allowing us to understand the role of parenting in the transmission of culture. Other papers in this literature observe immigrants when they are already young adults, therefore making it harder to understand the channels of cultural transmission.

We study immigrants' educational outcomes in a unique population-level dataset that contain individual-level administrative data from the Florida Department of Education (FLDOE) Warehouse on K-12 students, matched to birth certificate data from the Florida Bureau of Vital Statistics for the purposes of this research agenda. This dataset presents numerous advantages. First, this paper presents the first use of administrative data to study the relevance of cultural traits in explaining educational outcomes of first and second-generation immigrants. Florida is one of the largest immigrant-receiving states in the United States[3] and the FLDOE data allow us to observe the entire population of public

[3] Florida has over four million foreign-born individuals, more than all but 15 entire countries on earth. Florida's foreign-born population is also diverse: While the foreign-born population is disproportionately Hispanic (include 23% Cuban and 7% Mexican), it is also 21% from non-Hispanic Caribbean countries, 11% from Asian

school students, and to control for school fixed effects and several socioeconomic characteristics. The link to birth records allows us to identify second generation students and also to control (in the case of Florida-born children) for variables not typically observed in administrative education data such as maternal age, marital status, and education, birth order, and the like. The richness of the dataset also allows us to follow students at a level of disaggregation finer than a neighborhood (the school of attendance), therefore improving on the existing literature, which at most compares outcomes of migrants in similar MSAs. Second, we are able to follow these students over time during their primary education years, measuring not only their educational achievement at one point in time, but also the change over time. The longitudinal nature of the dataset is also an improvement compared to other studies of culture, which only present cross-sectional analysis. Point-in-time comparisons can conflate cultural transmission with unmeasured shared correlates between parents and children, but longitudinal data permit the opportunity to explore both levels and trajectories of outcomes. Furthermore, the ability to study both first generation and second generation immigrants permits us to pin down more confidently the degree to which it is the parents' country of residence where they grew up, rather than the student's country of residence, that is influential.

To study the importance of delayed gratification, we link each student within subgroups of interest (based either on country of origin or language spoken at home) to a measure of Long-Term Orientation developed by Hofstede et al. (2010). Hofstede et al. (2010) define Long-Term Orientation as the cultural value that "stands for the fostering of virtues oriented toward future rewards." Controlling for school and year fixed effects, as well as individual characteristics and measures of family income, we correlate the performance of first and second generation immigrant students to the Long-Term Orientation of their countries of origin. The results show that immigrants from countries with high Long-Term Orientation not only score substantially higher in standardized tests than immigrants originating from countries with lower Long-Term Orientation, but, over time, their scores in mathematics and reading grow more, controlling for their initial third grade score, suggesting that, in comparison with low Long-Term Orientation students, these immigrants not only have higher educational achievement in third grade but also continue to improve in relative terms over time. This is noteworthy because it is unusual for students to make large changes in their relative positions between the third and eighth grades, but the higher the measure of Long-Term Orientation, the more

countries, 10% from European countries, and 2% from African countries. The heterogeneity in countries of origin of foreign-born residents of Florida is dramatically greater than in Texas and California, where the majority of foreign-born residents come from a single country, Mexico.

likely this is to happen. Similarly, we find that immigrants from long term oriented countries have better school attendance records, are less likely to repeat a grade and to be truant, and are more likely to graduate in four years. Students from more long term oriented countries are also more likely to enroll in advanced college level classes (AP, IB, and AICE classes) during high school and more likely to choose advanced classes in scientific subjects. Given that we control for school-by-year fixed effects in all our specifications, our results are not driven by school quality, a potential source of selection for immigrants coming from long term oriented cultures. They are also robust to including several measures that control for potential confounding characteristics of the country of origin, including, for instance, differential educational selection of immigrants, economic conditions of the country of origin, and international test scores of the country of origin, as well as several maternal characteristics. Also, our results are not driven by specific groups of immigrants; importantly, we can rule out the possibility that our results are merely comparisons of immigrants from one part of the world (e.g., Asia) versus those from another part of the world (e.g., Latin America). The findings are also confirmed when we use two alternative measures of time preferences.

The theoretical literature on intergenerational transmission of preferences (Bisin and Verdier, 2000, 2001; Doepke and Zilibotti, 2008, 2015) suggest that economic conditions and altruistic motives induce parents into teaching specific preferences to their children. Our results are consistent with this view and suggest that, especially in the context of Galor and Ozak (2016), parents from certain regions are more likely to teach values of patience and Long-Term orientation.[4] The effects of Long-Term Orientation on educational attainment could potentially be driven by two complementary mechanisms. On the one hand, the offspring of more long-term oriented parents may be taught a culture that value working harder and studying harder to achieve long term goals. On the other hand, parents with a higher Long-Term Orientation may exert higher effort in securing good education opportunities for their children by prioritizing their kids' education over other personal goals. In turn, children may better absorb the values shared by their parents when they observe them prioritizing education.

To gain further insights on how the transmission of this cultural value impacts performance we study some of these potential mechanisms. While we cannot directly measure the transmission of values from parents to children, nor measure students' effort, we can test whether parents originating from countries that share values of delayed gratification take actions that increase the educational

[4] Alternatively, persistent behavior over time may be due to the transmission of beliefs (Guiso et al, 2008). Parents may teach the belief that sacrificing immediate reward for future reward brings long term benefits.

attainment of their children. We study whether these parents are more likely to select better schools within the school district of residence[5] and whether they are more likely to advocate for their children's inclusion in gifted programs, conditional on the student's achievement. We find evidence consistent with the hypothesis that parents from countries with higher Long-Term orientation are more likely to select good educational opportunities for their children. This mechanism can increase educational outcomes and increase the direct effect of transmitting values of delayed gratification to their children. As an additional channel of cultural transmission we study whether social learning (Boyd et al., 2011) reinforces the importance of the cultural values transmitted at home. Consistent with a social learning story, we find that the fraction of children speaking the same language in school indeed magnifies the effect of Long-Term Orientation on educational performance.

While our data are unique as they allow us to follow immigrant students over time, we face the potential criticism that the self-selection of immigrants in Florida can be accounting for the results. For this reason, we repeat our analysis using a large set of countries from the Programme of International Student Assessment (PISA) absorbing the country of destination fixed effect. We find a remarkable qualitative and quantitative similarity with this very different sample of immigrants suggesting that independently of the formal institutions of the country of destination, the relative performance of immigrants is related to the Long-Term Orientation of the country of origin, thereby indicating that our results have a reasonably high degree of external validity.

Our results suggest the existence of a cultural channel that explains the persistence of educational outcomes across generations, beyond income and educational transmission. Besides being related to a fast growing literature on cultural transmission (Alesina et al., 2013; Alesina and Giuliano, 2015; Algan and Cahuc, 2010; Becker et al., 2016: Galor and Moav, 2002; Galor and Michalopoulos, 2012; Guiso et al., 2006; Nunn and Wantchekon, 2011; Sacerdote, 2005; Tabellini, 2008; Voigtlander and Voth, 2012), our paper relates to the intergenerational mobility literature and to the research on immigrants' assimilation. Chetty and Hendren (2015) find that local conditions matter less for immigrants consistently with the conjecture that culture, rather than neighborhood's characteristics, can play an important role for immigrants. The literature on immigrants has systematically identified an "advantage" of some immigrant groups but, as far as we know, no paper has identified which

[5] Note that our analysis of student outcomes includes school-by-year fixed effects, so this differential school choice associated with Long-Term Orientation is not the factor that drives the student outcomes results that we describe in the paper.

cultural factors may be responsible for these findings (Card et al., 2000; Abramitzky, Boustan, and Eriksson, 2014).

The remainder of the paper is organized as follows. The next section describes the main dataset. Section 2 presents the empirical evidence from the FLDOE data. The results using PISA are presented in Section 3. We conclude in Section 4.

1. Data and outcome of interests

The main data sources for our analysis are school records obtained from the Florida Department of Education Data Warehouse, and the measure of Long-Term Orientation at the country level based on Hofstede (2010). For external validity we rely on student level data coming from the Program for International Student Assessment (PISA), described in Section 3.

1.1. Florida Department of Education Data

We use a unique dataset of school records for the state of Florida merged with birth certificates coming from the Florida Bureau of Vital Statistics.

The individual-level administrative data from the Florida Department of Education (FLDOE) Warehouse contains information on K-12 students who attended Florida public schools between 2002-2003 and 2011-2012. The dataset also contains information about the country of origin of the child and the language spoken at home. The dataset is longitudinal in nature, therefore it allows us to follow students over a decade and study their progress within subgroups of interest (either country of origin or language spoken at home).

Birth certificates contain a larger set of socio-economic controls (such as maternal education, marital status and age of the mother), normally not included in school records. They also contain information on whether the mother was born abroad. Birth certificates and school records were matched using first and last names, date of birth and social security numbers.[6] Since data from birth certificates are available only for children born between 1992 and 2002, we limit our analysis to these cohorts for all immigrants groups (including the first generation for which the birth certificates are not present). The FLDOE dataset merged with birth certificates allows us to study educational outcomes for first, second and higher than second generation immigrants. To identify the different

[6] The sample of birth records consists of 2,047,633 observations. Of these, 1,652,333 were present in Florida public school data. The match rate of 81% is consistent with the percentage of children who are born in Florida, reside there until school age, and attend public school, as calculated from the Census and the American Community survey for the corresponding years. See Figlio et al. (2014) for details about the nature and additional evidence on the quality of the birth-school data merge.

generations, we use information about the country of origin of the child, whether the mother was born abroad[7], and the language spoken at home.

We identify first generation immigrants using a question present in the FLDOE on the country of birth of the child. We also use a more restricted definition of first generation immigrants, which combines the information regarding the country of birth and the language spoken at home. Using the restricted version, we define as first generation a child born in country A, who also speaks at home one of the main languages spoken in that specific country.[8] This restriction can reduce some measurement error coming from those cases in which a child is born abroad but he/she is from the United States (for example children born in a US military base) or it could also capture a stronger cultural attachment as it reflects the intention of the family to speak their own language at home to preserve their cultural identity.

We identify two groups of second generation immigrants. As a first group, we define a maternal second generation immigrant as a child who was born in the US but whose mother was born abroad. Birth certificates do not contain information about the maternal foreign country of birth (with the exception of the following countries/territories: Canada, Cuba, Guam, Mexico, Puerto Rico, and Virgin Islands); they only indicate whether the mother was born abroad or not. For that reason, we identify the second generation using the three countries identified in the birth certificate for which we have the Long-Term Orientation data (Canada, Mexico, and Puerto Rico) and the language spoken at home for all the remaining cases.[9] We also use an alternative definition of second generation students by adding all children born in the US, speaking a language different than English at home, and whose maternal place of birth is either the US or unknown. This group could potentially include a generation higher than the second, but also second generation immigrants from the paternal side[10] (children with fathers born abroad and mothers born in the United States). We called this group "extended second generation."

[7] The birth record data provided by the Florida Bureau of Vital Statistics does not include information on father's place of birth.

[8] The list of the main languages spoken in a country is taken from the 17th version of the *Ethnologue*.

[9] Therefore, for the second generation, we have difficulty differentiating among the approximately 15% of second generation immigrants who are Spanish-speaking but whose mothers were not born in one of the specified locations. We carry out all analyses both with and without Spanish speakers and demonstrate that this is not driving our findings in any meaningful way.

[10] We cannot identify this group from birth certificates as we have only information regarding maternal country of birth.

The total sample of student records (immigrants and non-immigrants) consists of 18,734,847 student-year observations. The initial sample of unique individual students for the 1992-2002 cohorts observed during the period between the 2002-2012 school years consists of 3,018,961 students. The sample of first generation immigrants consists of 354,954 unique individual students. The sample of second generation immigrants (the restricted version) consists of 396,330 unique students identified based on the foreign-born status of the mother. For our extended definition of second generation students we include additional 269,487 unique students, identified using the language spoken at home. The sample of natives (individuals born in the US, whose mothers were born in the US and who speak English at home) consist of 1,959,058 unique students.[11]

For the first generation, we merge the country of origin with the Long-Term Orientation variable defined at the country level. We have information on Long-Term Orientation for 93 different countries. (The list of countries and the number of observations by country is provided in the Appendix, Table A1, for both the unrestricted and restricted definition).

For the groups of immigrants identified through language (second generation) we construct a measure of Long-Term Orientation at the language level. For most languages there is a one to one association between language and country of origin (for example Norwegian). For languages spoken in multiple countries (for example Portuguese) we calculate the Long-Term Orientation cultural variable as a weighted average of the Long-Term Orientation of all the countries in which Portuguese is the main language spoken in the country. We use as weights the fraction of first generation immigrants in our sample speaking that language and born in a country where that language is one of the spoken languages. For instance, in the case of Portuguese, we allocate 98% of the weight to Brazil and 2% of the weight to Portugal, in accordance with their shares of language-speakers in the Florida school data.[12]

The number of observations by language for the second generation from the maternal side and for extended definition of children of immigrants are presented in Table A2 of the On-line Appendix. We have information on 93 different languages.

[11] We also consider as natives, children speaking English at home, born in the US but outside Florida and for whom the place of birth of the mother is unknown (if a child is born outside Florida, the birth certificate is not available). We drop from the sample 39,132 unique students for whom the language and the country of origin of the child are missing and/or were born in Florida but the mother birthplace is labeled as "missing" in the birth records.

[12] As a robustness check, we also run our regressions limiting the sample to countries which can be uniquely identified with a language. Our results (available from the authors) are robust to this specification.

1.1.1 Comparison between natives and immigrants

Florida is one of the top immigrant states in the United States, both in terms of numbers of immigrants and immigrant share of the total population. Given that our data only includes students in public schools, it is important to compare the characteristics of first and second generation immigrants going to public schools with those of the natives.[13] The descriptive statistics for the three groups based on Census 2000 and 2010 are shown in the on-line Appendix (Table A3). In 2000, the fraction of natives and second generation immigrants going to public schools is very similar (88% of natives and 87% of second generation), while the number is slightly higher for the first generation (93%).[14] Similarly, the family income of natives and second generation immigrants does not differ substantially in 2000 (around $61,000), whereas the average income is lower for the first generation ($46,441). Furthermore, when we restrict the sample to families sending their children to public schools, the income is lower than the income of families with children in private schools, as expected, but the differences between groups is again similar for natives and second generation immigrants ($55,838 and $52,842, respectively) and lower for first generation immigrants ($43,526).[15] The patterns are similar for 2010.

1.1.2 Outcomes of interest

We study the following five different outcomes, separately for our first generation, second generation and extended second generation samples:

i) *Test scores in mathematics and reading.* Here, we look both at differences in the Florida Comprehensive Assessment Test (FCAT), the state's high-stakes criterion-referenced test, in grade 3 (the first grade of statewide testing) as well as the increase in performance from grade 3 to grade 8, after controlling for the initial score reported in grade 3. Studying test score growth is especially important because test score levels might reflect some omitted variable correlated with Long-Term Orientation, but it is very rare for students to dramatically change their relative position in the statewide test score distribution between grades 3 and 8. Because the test changed in 2011 and to aid in interpretation, we standardize the statewide test scores to zero mean and unit

[13] When we look at the Census, we define second-generation immigrants as children born in the US with at least one parent born abroad.
[14] The numbers are very similar in the Census 2010: 88% of native and second generation immigrants, and 93% of first generation immigrants, attend public schools.
[15] The differences across groups in the Census 2010 are similar.

variance at the grade/year level based on the sub-sample used in the regression/specification.

ii) *Probability of being retained*, defined as a dummy equal to one if the student repeats the same grade at least once. Retention is calculated for all grades from 3 to 12.[16]

iii) *Absence rates* during academic year defined as the percentage of days in which the student is absent during the academic year. Absence rates are calculated for all grades from 3 to 12.

iv) *Disciplinary incidents:* a dummy for whether the student was involved in a disciplinary incident (serious offences often resulting in suspension). Disciplinary incidents are calculated from grades 6 to 12, as incidents are extremely rare in elementary school.

v) *High school graduation:* a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time. This part of the analysis is conducted only for those students who have the potential to be observed for at least four years after they start high school, so we can only study this outcome for the oldest students in our population.

In addition, in the section devoted to understand the potential mechanisms linking Long-Term Orientation and educational attainment, we study four additional outcomes:

vi) *Enrollment in advanced classes:* we calculate the fraction of advanced classes, including Advanced Placement (AP), International Baccalaureate (IB), and Advanced International Certificate of Education (AICE), over the total of all classes taken by the student in a given year, for grades 9 to 12[17].

[16] In Florida there is a mandated third-grade retention for all students who do not meet a Level 2 benchmark or higher (the second lowest of five levels) on the Florida Comprehensive Assessment Test (FCAT) reading exam, though some exceptions to this rule are admitted (LiCalsi, Özek, and Figlio, 2016). LiCalsi, Özek, and Figlio (2016) find that family factors are important determinants of differential enforcement of the mandatory retention rule, and that children from high-SES families are comparatively more likely to be promoted despite the mandatory retention rule, indicating some room for parental influence in school decision-making, even in cases when decisions are putatively mandatory. Retention in subsequent grades is not based on a strict score cutoff. As such retention in third grade is substantially higher than in other grades. In our tables we will study the retention in every grade. In unreported regressions, we tested retention only in grade 3 and the effects are similar in magnitude.

[17] These three possible types of advanced classes are offered in Florida public schools and are recognized as college level classes at least by state Universities.

vii) *Fraction of advanced classes in scientific subjects:* we calculate the fraction of advanced classes in scientific subjects (defined as Math, Computer Science or Natural Sciences) over the total of advanced classes.

viii) *School choice*: the Florida Department of Education reports school scores on a letter scale from A (best) through F (worst)[18]. We study school choice by looking at the relationship between Long-Term Orientation and the score assigned to the school in the year before entering kindergarten (this is the first time in which the student enters the public school system). We also look at the relationship between Long-Term Orientation and school scores for all grades.

ix) *Gifted students:* Florida defines gifted students as "students who have superior intellectual development and are capable of high performance." Each district serves gifted students with local plans and a specific track. Eligibility for the program is determined by the parents, the student when appropriate, the teacher, a school system representative, and an evaluation specialist. Family intervention is therefore very relevant to determine the enrollment in a gifted program. To study family intervention we restrict our sample to children who are top performers[19] in grade 3 and not enrolled in a gifted program, and test whether the probability of being enrolled in a gifted program in grade 4 is correlated with Long-Term Orientation.

Sample statistics for all outcomes are described in Table 1 and more details about each variable are contained in the Online Appendix.

1.1.3 Individual controls

All our regressions contain a large set of controls, including demographics (age in months and gender), a measure of English proficiency (measured by a dummy equal to one if the student is enrolled in the limited English proficiency program), a measure of low-income status (measured by a dummy equal to one if the student is eligible to receive free or reduced free lunch or attend a "provision 2"

[18] For a description of the school grading process in Florida, see http://schoolgrades.fldoe.org/. We recoded the letter scores on a scale from 1 through 5, where 1 corresponds to an "F" score and 5 corresponds to an "A" score. These scores are highly salient to households when making decisions regarding residential location (Figlio and Lucas, 2004) or voluntary donations to public schools (Figlio and Kenny, 2009).

[19] These are students who reach the highest achievement level (that is, level 5) in either Math or Reading, and either level 4 or 5 in the other subject.

school)[20] and a measure for whether the student has some special education needs.[21] Because special education, family income, and limited English proficiency are all potential consequences of parental Long-Term Orientation, we investigate the degree to which our results are driven by the decision of whether or not to control for these variables, and we find that our results are highly robust to their inclusion or exclusion. In our main specifications, we control for these variables, as well as school-by-year fixed effects (themselves a partial control for family background possibly driven by Long-Term Orientation), in order to obtain a likely underestimate of the "true" effect of Long-Term Orientation.

For second generation immigrants (including the extended version) born in Florida we also have information on maternal characteristics (educational attainment[22], marital status at time of birth and whether the mother had the child when she was younger than 16), the number of older siblings and the zip code of the home address at time of birth. Sample statistics for these controls are shown in Table 1 and more details about each variable are contained in the Online Appendix.

1.2 Long-Term Orientation Data

Hofstede et al. (2010) define Long-Term Orientation as the cultural value that "stands for the fostering of virtues oriented toward future rewards, perseverance and thrift". Hofstede (1991) based his original analysis on data gathered from interviews of IBM employees across the world. This original data was later expanded using the data from the Chinese Values Survey and from the World Values Survey[23]. The Long-Term Orientation measure varies between 0 (short-term orientation) and 1 (long-term orientation). Figure 1 shows the distribution of Long-Term Orientation around the world. There is substantial heterogeneity: in our sample, the country with lowest Long-Term Orientation is Puerto Rico (taking the value of 0), whereas the country with the highest score is South Korea (taking the value of 1). Most Asian and many European countries show high numbers, most African and Latin American countries belong to the lowest part of the distribution, and Canada and Northern European Countries tend to lie somewhere in between. However, even within regions of the world, there exists considerable variation in the Long-Term Orientation measure.

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[20] To qualify for free or reduced lunch, the family income has to be respectively below 185% and 130% of the federal income poverty. Provision 2 schools establish claiming percentages and serve all meals at no charge for a 4-year period. For details see http://www.fns.usda.gov/school-meals/provisions-1-2-and-3.

[21] Categories for special education include mentally handicapped, orthopedically, speech, language, or visually impaired, deaf or hard of hearing. It also includes students with emotional or behavioral disabilities, with autistic spectrum disorder and other forms of serious disabilities (such as students with traumatic brain injuries).

[22] We define dummies for high school completion, some years of college, and four or more years of college. In the regressions the excluded group is given by high school dropout mothers.

[23] For details see http://www.geerthofstede.nl/vsm-08.

Galor and Ozak (2016) explore the origins of the distribution of Long-Term Orientation across countries and establish empirically that pre-industrial agro-climatic characteristics conducive to higher return to agricultural investment were the main determinant of the distribution of Long-Term Orientation across societies. The authors estimate the potential (rather than actual) caloric yield per hectare per year, under low level of inputs and rain-fed agriculture capturing cultivation methods that characterized early stages of development, while removing potential concerns that caloric yields reflect endogenous choices that could be affected by Long-Term Orientation.

In Section 2.5 we use Galor and Ozak's measure of potential caloric suitability as the most exogenous proxy for Long-Term Orientation. We also test the robustness of our results to differences in linguistic structures (Chen, 2013) that also proxy for a different weight attributed to future versus present choices.[24]

2. Evidence from Florida data

Before starting our empirical analysis, we first examine whether there exist systematic differences between each educational outcome and Long-Term Orientation as measured in the country of origin or by language spoken at home in our sample of first and second generation immigrants in Florida.

These raw correlations are reported in Figures 2 and 3.[25] For all the outcomes we find that the relationship is in the hypothesized direction. Coming from cultures that emphasize the importance of Long-Term Orientation is positively correlated with test scores, an improvement in educational performance over time and the probability of graduating on time; immigrants and children of immigrants coming from long-term oriented cultures are also less likely to be retained in school, be absent from school or have disciplinary problems. The figures also show that the relationship is not driven by a small number of countries.

These differences could be driven by individual characteristics, school characteristics or systematic differences across countries of origin. Our empirical analysis takes care of all the above mentioned concerns by estimating the following equation:

$$Y_{ic} = \alpha LTO_c + \beta X_i + \theta X_{it} + \gamma_g + \delta_t + \mu_s + \mu_s \cdot \delta_t + \varepsilon_{ict}$$

[24] Detailed information on Galor and Ozak (2016) and Chen (2013) measures are provided in Section 2.5.

[25] For purposes of confidentiality, we only show data points for countries of origin/languages where we observe at least 50 individuals. The statistical analyses that follow include all data, including those from countries of origin/language-speakers with fewer than 50 observations.

where Y_{ic} is an outcome of interest for student *i* coming from country *c,* and LTO_c is our measure of Long-Term Orientation measured at the country level or by language spoken at home. X_i and X_{it} are time invariant and time variant individual controls including age and gender (X_i), free-lunch eligibility, limited English proficiency and a dummy indicating whether the student has special educational needs (X_{it}). Our specification also includes grade fixed effects (γ_g), in the outcomes for which this is relevant, a full set of academic year fixed effects (δ_t), school dummies (μ_s), and all the non-linear interactions between school and academic year fixed effects ($\mu_s \cdot \delta_t$) to control for cohort specific differences in performance across different schools. The standard errors are clustered at the country of origin or language level respectively for first and second generation immigrants.

Table 2 reports the results, for the first generation, for two measures of performance in mathematics: in levels, at grade 3 (the first time standardized tests are administered in Florida), and the change in performance from grade 3 to grade 8, controlling for the initial condition at grade 3. Column 1 presents findings for test scores in mathematics when we control for age, gender, year, school fixed effects, and all their non-linear interactions. Column 2 includes the full set of individual controls (limited English proficiency, special education status, and free lunch) intended to capture the relevance of socio-economic status in school performance. The estimates show that first generation immigrants coming from countries with a high level of Long-Term Orientation have higher test scores in mathematics. The results remain strong after controlling for all the socioeconomic status variables, although the coefficient size decreases from 0.597 to 0.336.

Differences in scores in mathematics could be related to differences in patterns of assimilation across migrants from different countries of origin. Therefore, Long-Term Orientation could simply pick up in a systematic way some of these unobserved differences in initial conditions. To rule out this confounding effect, we also look at the change in performance in mathematics from grade 3 until grade 8, after controlling for the initial score in grade 3. These results are reported in columns 3-4. Coming from a long term oriented country not only gives students an initial advantage when they first test in grade 3, it also has an additional strong effect over a long time horizon, as the performance of these students continues to improve. From the specification in column 4: a one-standard-deviation increase in Long-Term Orientation (0.236) corresponds to a 0.051 (0.236*0.217) of a standard deviation in change in math performance. To put this in perspective we can compare it to the effect of maternal education. While we do not have this variable for the sample of first generation students, in the population of second generation students for which the effect of Long-Term Orientation is

similar, the typical child of a mother with a four-year college degree or more experiences a change in math performance of 0.052 of a standard deviation over the same time period.[26] This specification is particularly compelling as we are able to control for the initial condition of the student (measured with the test score in grade 3), therefore further limiting the possibility that the results are driven by initial selection. Note also how the inclusion of the socio-economic characteristics in column 4 does not change substantially the size of the coefficient, an indication that the initial test score in grade 3 captures already most differences in socio-economic status.

Columns 5-8 restrict the sample to first generation immigrants who also speak one of the languages spoken in their place of birth. The results are even stronger. The coefficients on Long-Term Orientation is equal to 0.591 and 0.814, with and without the inclusion of socio-economic status characteristics. As explained above, this increase in magnitude could be driven by a reduction of measurement error or because speaking the country of origin language is a manifestation of cultural attachment. When the dependent variable is the change in math scores between grade 3 and 8, the coefficient is also larger in magnitude and almost double in size compared to the unrestricted sample.

Not only are the coefficient estimates statistically significant, but they are also economically meaningful. Based on the estimates of column 6, a one-standard-deviation increase in Long-Term Orientation (0.192) is associated with an increase in math score of 11.3% of a standard deviation (0.591*0.192). The estimated impact of the same increase in Long-Term Orientation implies an increase in math performance of 10.4% of a standard deviation.

Table 3 reports the effect of Long-Term Orientation on other educational outcomes.[27] The results show that overall there is a strong statistically significant relationship between Long-Term Orientation and various measures of school outcomes are generally large: A one standard deviation increase in Long-Term Orientation is associated with 8% of a standard deviation increase in reading levels and conditional reading gains, 7% of a standard deviation reduction in truancy, and 7% of a standard deviation reduction in disciplinary problems. When considering the dependent variables that are dichotomous, a one standard deviation increase in Long-Term Orientation is associated with a 0.35 percentage point reduction in grade retention and a 1.9 percentage point increase in graduation,

[26] We do not observe maternal education levels for foreign-born children, and therefore cannot control for or stratify by maternal education in the population of first generation students. However, we can do this for second generation immigrants, and we report the results of these analyses below.

[27] We only report the results for the restricted sample of the first generation (where we impose that the child should speak one of the main languages spoken in his/her country of origin). Results on the unrestricted sample are available from the authors.

both large in relation to the 3.8% of students who are retained in any given year and the 20.9% who fail to graduate in the population.

Tables 4 and 5 report the results for all educational outcomes for second generation immigrants (defined using the foreign born status of the mother, her country of birth, when available or the language spoken at home) and the extended sample of second generation immigrants (defined only using the language spoken at home without any restriction on whether the mother is born abroad or not). It is interesting to note that the relative magnitude of the coefficients is very similar for the two groups and also almost identical to the magnitude of the results obtained with the sample of first generation immigrants. These results are consistent with the literature that show a remarkable persistence over time of cultural traits across generations (Albanese et al., 2016; Alesina et al., 2013; Algan and Cahuc, 2010; Fernández and Fogli, 2009; Giuliano, 2007; Guiso et al., 2006, 2016; Voigtlaender and Voth, 2012). The estimated effects for the continuous dependent variables range from a minimum of 5.2% of a standard deviation of the dependent variable (for truancy in the extended definition of second generation) to a maximum of 11.5% (for differences in math score at grade 3). All the beta coefficients are reported at the bottom of all our Tables.

Figures 4 and 5 present binned scatter-plots of the mean of different educational outcomes for first and second generation students versus the mean level of Long-Term Orientation. To construct this figure, we divided the horizontal axis into 40 equal-sized (percentile) bins and plotted a given mean education outcome versus the mean level of Long-Term Orientation in each bin.[28] Consistently with our regression results, we do find a significantly strong relationship between Long-Term Orientation and educational outcomes for both generations.

In the analysis presented so far, we could include only a limited number of family control characteristics. For the sample of second generation immigrants (restricted and extended) we can also include the information about maternal characteristics contained in the birth certificates. In Table 6, we present the results for the extended sample of second generation immigrants where we include dummies for education, a dummy for whether the mother was younger than 16 when she gave birth (teen pregnancy), a dummy for whether the mother was married at time of birth, the number of older siblings, the income in the zip code of birth measured in 1999 (columns 1-5) and all controls included together (column 6).[29]

[28] These regressions are estimated on the underlying microdata using OLS regressions.

[29] Results for the restricted version of the second generation are virtually identical and available from the authors.

The controls have all the expected sign: a higher level of maternal education, being married at the time of birth and a higher income (proxied by the income in the zip code at birth) improve school performance; on the other hand, a larger family and teen pregnancy both reduce educational performance. The maternal characteristic with the largest economic effect is four years of maternal college degree: its coefficient of 0.385 indicates that a child of a mother with a college degree has a math score 40% higher than a child whose mother is a high school dropout. It is useful to compare this magnitude to the magnitude of the Long-Term Orientation coefficient. Moving from Puerto Rico's Long-Term Orientation (lowest) to South Korea's (the highest) the math score increases by 73%. Another way to compare the economic significance of our results is to compare beta coefficients based on column 6 estimates. The beta coefficient of Long-Term Orientation for math score is equal to 0.10, similar in size to the beta coefficient of a four-year college degree dummy (0.12) and much larger than the beta coefficient of other maternal characteristics, such as teen pregnancy (-0.007), marital status (0.049), and the number of older siblings (-0.034). The Long-Term Orientation beta coefficient is also five times larger than the beta coefficient of the income in the zip code of residence at birth and substantially larger than the beta coefficient on the eligibility to free or reduced price lunch (-0.069). Only the beta coefficients of enrollment in a limited English proficiency program (-0.26) and of whether the student has special education needs (-0.22) are substantially larger.

In Table A4 we repeat our regressions on the other educational outcomes by including all maternal controls. The size and the significance of the coefficients on Long-Term Orientation are not affected by this inclusion.

2.1 Controlling for country of origin observable characteristics

A potential concern with the OLS estimates reported up to this point is that the Long-Term Orientation measure could capture some omitted country of origin characteristics. To attenuate this concern we control for additional country of origin observable characteristics[30] (Table 7). We first introduce these controls one by one. The first obvious candidate is the level of GDP: if countries with higher Long-Term Orientation are also richer, a better performance of immigrants from these countries could be a reflection of differences in income (not fully captured by our free lunch control). Contrary to the argument above, students who come from a country with lower GDP perform better than immigrants from a higher GDP country, suggesting that selected students are more likely to come

[30] A detailed description of the country controls and their sources are provided in the Appendix.

from poorer countries. Nonetheless, as shown in column 1, the inclusion of this control has little impact on the coefficient of interest.

Distance from the US could be another prominent determinant of differences in educational attainment: perhaps immigrants coming from countries farther away from the United States have higher determination and perseverance. Higher distance could be also correlated to a higher amount of initial resources necessary to move to the US. Indeed, distance from the US has a positive and significant effect on educational attainment, but, as shown in column 2, the coefficient of Long-Term Orientation remains robust to the inclusion of this control.

Galor and Ozak (2016) show that a culture emphasizing the future relatively more than the present has a direct positive effect on savings rates. As a result, differences in educational performance could be driven by differences in saving rates among immigrant groups and not directly related to differences in Long-Term Orientation, as higher savings may give the necessary resources for moving. We control for a measure of domestic savings over GDP in the country origin in column 3. Savings in the country of origin is not statistically significant and does not affect the coefficient on Long-Term Orientation.

Although we directly control for maternal education in our regressions, there are two other aspects of differences in education which is worth taking into account in our analysis. The first is a systematic difference in educational attainment between Florida immigrants from specific countries and their fellow citizen. If immigrants in Florida do not reflect a random sample of the population from which they came, Long-Term Orientation could be simply capturing the positive selection in the education of the immigrants. To address this issue, we follow Feliciano (2005) and construct an index of selection based on a comparative measure of immigrants' and non-immigrants' educational attainment adjusted for age along all points of the education distribution.[31] For example, an index of 0.15 indicates that an immigrant's educational attainment probabilistically will exceed that of a non-immigrants from the same country 15 percent more often than a non-immigrant's education will exceed the education of an immigrant from the same country. The higher this measure of selectivity, the more educated the immigrants are relative to the non-immigrant population in their home country. On the contrary, if immigrants are more often less educated than non-immigrants, the index of selectivity will be negative indicating negative selection. For our purpose, the concern is that Long-Term Orientation may be capturing part of this selection, in case Long-Term Orientation is correlated

[31] The construction of this selection measure is described in detail in the Online Appendix.

with Feliciano's selectivity measure. In our sample, the index of selectivity goes from a minimum of 0.10 (Mexico) to a maximum of 0.92 (Tanzania). China has an index of 0.62, very close to Argentina (0.60) whereas South Korea appears in the bottom part of the distribution (0.30). Overall, this measure appears very relevant in explaining differences in educational performance, but interestingly enough, the measure per se shows a very low (and negative) correlation with Long-Term Orientation. In addition, its inclusion in our specification leaves the coefficient of Long-Term Orientation almost unchanged (column 4 of Table 7).

The second concern is that differences in educational performance could be driven by differences in the quality of education in the country of origin, as reflected in reading and math scores. Higher quality of education received by the parents could be reflected later in higher achievement of the children as parents with higher quality of education could help their children doing homework more effectively. In column 5 we control for the average math score in the country of origin constructed from PISA. The coefficient on Long-Term Orientation is still significant, despite the much smaller number of immigrant groups included in the regression due to the availability of the data from PISA.

In column 6, we include all the country controls in one specification. Although the Long-Term Orientation coefficient is reduced in size, it remains highly significant and overall, the estimated impact is robust across the various specifications. The coefficients also remain fairly stable, ranging from 0.41 to 0.61 (for math score). Similar results are obtained for the change in mathematical performance from grade 3 to grade 8 (columns 7-12 of Table 7), where the coefficient varies from 0.29 to 0.41. Results are also very similar when we repeat the same analysis for the extended version of second generation immigrants (Table 8), both in terms of magnitude and significance.

In the appendix (Tables A5 and A6) we report the robustness to the inclusion of these country controls to the remaining educational outcomes for first and second generation immigrants.[32]

We also test the robustness of our results to the inclusion of additional country of origin controls, including the log of the population in 2000, the Gini coefficient in 2000, the type of migrants (share of employed, and family-led diversity migrants over the total population of migrants) and a

[32] The inclusion of the math score from PISA substantially reduces the sample. For that reason, in Panel A of Tables A5 and A6 (Online Appendix) we report the regressions without the inclusion of this control, whereas in Panel B of both Tables we repeat the regressions with the inclusion of this control. Also, the results for second generation immigrants (restricted) are very similar to the extended version and are reported in Table A7.

measure of genetic distance from the US. The results, available from the authors, are robust to the inclusions of this larger set of controls.

2.2 Robustness to sample selection

In this section, we consider the robustness of our results to the use of different sub-samples. In Panel A of Table 9, given the similarity of results for the different generations, we pool together all the generations of immigrants and repeat the baseline regressions for this pooled sample, which we use for comparison for this set of results.[33] In Panel B, we exclude the first and second generation immigrants coming from Latin America and Central America[34], the biggest immigrant group in Florida. Since this group also tends to be in the bottom part of the educational performance distribution, by excluding them, we also test the robustness of the results to the exclusion of the approximate lower tail of the performance distribution. The results remain robust to the exclusion of this group. In addition, the magnitude of the beta coefficients remains similar (and are sometimes reduced) compared to the baseline specification of Panel A.

Asian immigrants are often considered a "model minority". Since immigrants from Asia tend to show the highest levels of Long-Term Orientation, we also test the robustness of our results to the omission of all Asian countries. Panel C shows that the results are robust to this exclusion and that our results are not driven by the group that is disproportionately represented among the top performers in our population. The beta coefficients, not surprisingly, are smaller when we exclude the top performers from our specification.

Overall, examining Figure 1, it is apparent that there exists some geographical cluster in Long-Term Orientation by continent. We also check that our results do not reflect these differences by adding continent dummies to the whole sample. The estimates are also robust to this procedure (Panel D), with almost no difference in terms of magnitude. [35]

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[33] We only report the coefficient of Long-Term Orientation and omit to report the other controls (gender, age, free or reduced priced lunch, special education, and limited English proficiency). In these regressions, since we are merging generations based on language and country, we define the continent dummy based on both variables. The details of the construction of this variable are provided in the Online Appendix. Also, the constructions of the clusters are explained in the Online Appendix.

[34] Note that we define "Latin America" as all countries located in the Americas with the exclusion of Canada and the US.

[35] For the first generation, the continent dummy is equal to one if the country belongs to a given continent, 0 otherwise. As for language, we adopted the following rule: a language is assigned to a given continent if among the sample of first generation immigrants who speak that language at least 50% come from that specific continent.

2.3 Heterogeneous effects: family and peers

So far, our analysis has assumed that Long-Term Orientation has similar effects for all individuals with a similar cultural background. However, the effect of Long-Term Orientation on educational outcomes could have heterogeneous effects, both in terms of family characteristics but also with respect to the interaction with peers of similar cultural background in the school where children study.

We test for these two possibilities separately in Tables 10 and 11. In Table 10, we include interaction terms between Long-Term Orientation and different family characteristics (including free-lunch eligibility, number of older siblings, the zip code median income at birth and all maternal characteristics). We observe some heterogeneous estimated effects with the marital status and the level of education of the mother. Being married apparently reinforces the effect of Long-Term Orientation (column 6); mother's education, surprisingly, reduces it, although in a non-linear way. Perhaps if the mother dropped out of high school, she is more likely to stay at home and socialize her children to her values. Despite the negative effect on the interaction terms of the mother's educational dummies, the overall effect of Long-Term Orientation remains positive and significant, even when we include as regressors all the interactions in the same specification (Column 6). Table A8 finds similar results for all other educational outcomes.

The fraction of children speaking the same language in a given school may also play an important role in transmitting and preserving the importance of Long-Term Orientation: If cultural transmission is important, the larger the fraction of children speaking the same language in a school, the larger should be the effect of Long-Term Orientation on school performance. Note that this fraction depends on the extent to which a group tends to cluster in a school but also on how large a group speaking a given language is.

We calculate a proxy for cultural density as the proportion of children speaking a given language in each school for every academic year. For each language, the numerator is therefore given by the number of children speaking a given language in the school in a year, whereas the denominator is the number of all students in the school (including non-immigrants) in that year. Although the average fraction of students speaking a given language in a school is fairly low in our sample (lower than one percent) there is a substantial heterogeneity in our sample, with some languages reaching up to 38% in a given school/year. Languages with high percentages other than English, Spanish, and Haitian Creole, the three most commonly spoken languages in Florida, include French, Hebrew, Russian, Vietnamese, Chinese, Serbian, Arabic and Portuguese.

We attach to each child speaking a given language, his/her own measure of cultural density by school and academic year. To limit the possibility that our results are biased by some languages that are spoken by a very large fraction of students and in order to capture sufficient variation, we drop from the sample the students speaking Spanish, Haitian Creole, or English.[36]

The results are reported in Table 11. Across all specifications, a higher fraction of children speaking the same language of the student has a negative and significant effect on the student's educational attainment for almost all outcomes.[37] This is not surprising, given that speaking a language different than English can have some impediment on the learning process and a larger fraction of students speaking a foreign language can reduce a student's incentive to speak English. However, interestingly, the interaction between Long-Term Orientation (based on the language spoken by the student) and the fraction of students speaking the same language in school is positive and significant. In addition, the full marginal effect of Long-Term Orientation remains positive and significant when evaluated at the mean of cultural density: a one standard deviation increase in Long-Term Orientation is associated, for example, with a 11.5% standard deviation increase in math level. The degree to which children cluster in the same school appears to be an important vehicle to explain the effect of Long-Term Orientation on educational outcomes.[38]

2.4 Potential mechanisms

In this section, we look at some additional outcomes and try to shed some light on some possible mechanisms linking Long-Term Orientation and school performance. We begin by studying the probability of being enrolled in advanced classes in high school and also at the probability of choosing advanced scientific classes. Both could be another manifestation of Long-Term Oriented attitudes. Advanced classes require hard work and perseverance today in exchange for future rewards, as measured for instance by access to better colleges which normally reward a more rigorous curriculum. Also scientific subjects, on average, give access to better paying jobs. Furthermore, we provide evidence for ways in which parents with higher Long-Term Orientation may contribute to

[36] These observations are dropped only from the numerator (and the regressions), while they will be part of the denominator, which includes the total population of each school.

[37] It is interesting to note that the fraction of students speaking the same language in a school is significant only when the Long-Term Orientation variable is also included. When we run a regression only with the fraction of students speaking the same language as a control, this variable is only significant when the LHS variables are reading scores in grade 3, disciplinary incidents, and retention. In these three cases the cultural density variable has a negative effect on all three educational outcomes.

[38] When the left hand side variable is the change in scores between 3rd grade and 8th grade we interact Long-Term Orientation with our variable of cultural density either in 3rd grade (the first time the student was tested) or in 8th grade. The results are similar in the two specifications.

their children's success by selecting better schools and successfully enrolling their children in a gifted program. We examine all these outcomes in Table 12. [39]

We start by looking at whether there is a direct link between Long-Term Orientation and being enrolled in advanced placement or equivalent classes in high school and whether this correlation also exists for advanced placement classes in scientific subjects (columns 1-2). We include our standard controls but also add performance in mathematics at grade 8. The effect is statistically significant and also has a large effect for both outcomes (the beta coefficients are equal to 0.09 and 0.10 respectively).

We then examine whether children coming from Long-Term Oriented families go to better schools, controlling for the school district of residence. Starting in 1996 the Florida Department of Education required school districts to design an open enrollment plan which allows parents to choose among several options including magnet schools, schools-within-schools, alternative schools, year-round schools, dual enrollment, and controlled open enrollment schools. We study whether parents with high Long-Term Orientation are more likely to either use Florida's school choice programs or otherwise choose neighborhoods served by better schools, as measured by the quality reported by the Florida Department of Education. In each district parents have access to the schools' scores before enrollment. These school scores have 5 possible letter grades, from A to F, which we coded from worst (1) to best (5). Since school's letter scores change frequently and it is unlikely that parents re-optimize every year, in column 3 we regress the quality of the school chosen the first time the student enters the public school system (in kindergarten or pre-kindergarten) – the time when school choice is most relevant -- on Long-Term Orientation. In column 4, we also repeat the analysis by regressing the school score in any grade on Long-Term Orientation.[40] The results are very similar: Families coming from Long-Term Oriented societies actively choose better schools (the beta coefficient is equal to 0.058 and 0.052 respectively) within their school district.

All of the previous mechanism analyses point toward a pattern in which families from high Long-Term Oriented backgrounds take active steps to secure good outcomes for their children. There exists one outcome in the administrative data that is especially conducive to studying the likely role of direct parental involvement in school decisions – whether a student is enrolled in a school's gifted program. Though there are differences across school districts in the implementation of gifted programs, the state of Florida mandates that each district is responsible for providing an appropriate

[39] The definition of these variables is given in section 2.1.2.

[40] In this regression we use the school score at time t-1. This is the school score that the family observes at the time of enrollment.

program that serves all exceptional students and the State Board of Education provides oversight over district plans. By fourth and fifth grade, most elementary schools in Florida offer separate full-time instruction for gifted students. To qualify for being included in gifted instruction, students have two routes. The first way is to submit an IQ test above the state cutoffs. Students could be tested by either a district psychologist or by a private psychologist and submit the results to the school. Students with IQs above the relevant threshold are eligible for gifted status, with the final determination made in consultation between parents, teachers, and the school's Exceptional Student Education (ESE) specialist. Alternatively, seats in the gifted classrooms are filled by non-gifted students -- known as high achievers -- who scored highest among their school/grade cohort in statewide achievement tests in the previous year.

While we do not have information on external tests, we have a mechanism for testing the degree to which immigrant students ultimately receive gifted instruction. Our approach is as follows: We look at the set of students who were *not yet* classified as gifted in third grade, before the first statewide assessment, but then who received the highest performance (level 5) rating on either mathematics or reading and either a level 4 or 5 on the other test, and then see whether, conditional on being in this rarefied group of exceptionally high achievers, the student is enrolled in the gifted program in the following year. We find that children coming from Long-Term Oriented cultures are more likely to be enrolled in a gifted program and the effect is again sizeable (a beta coefficient of 0.05).

These last two results are important. First, they confirm that parents from countries with a long-term oriented culture appear to care relatively more about education and, despite the cultural barriers that a foreign school system poses to immigrant families, they are determined to use the rules of the system to secure better educational opportunities for their children. Indeed, part of the higher educational achievement of immigrants coming from countries with high Long-Term Orientation may be the result of a direct intervention of parents selecting better schools and advocating for the inclusion of their children in gifted programs. This evidence, together with the one presented on the importance of having students speaking the same language attending the same school, is also consistent with models of cultural transmission emphasizing the relevance of social learning (Boyd et al., 2011): children are more likely to internalize the value transmitted by their parents if people around them behave in a similar way.

2.5 Alternative measures of Long-Term Orientation

We finally consider the robustness of our results to the use of two alternative proxies for Long-Term Orientation. We first look at linguistic differences in the use of the future tense as a proxy for the relevance of future-oriented versus present oriented actions. Chen (2013) uses the fact that languages differ in the way they grammatically mark future events and test whether this difference has an effect on savings, health behavior, and retirement assets. His idea is that languages that grammatically separate the future and the present lead speakers to dissociate the future from the present. This would make the future feel more distant, therefore making future-oriented choices harder. On the other hand, if the language makes the present and the future indistinguishable, its speakers will be more willing to take future-oriented actions, because they appear to be closer in time.

Chen (2013) distinguishes languages in two groups: those that have a strong future-time reference and those that do not. The measure has been constructed by the European Science Foundation's Typology of Languages in Europe (EUROTYP) project. According to this criterion, languages are classified as "futureless" if they do not require "obligatory use in prediction-based contexts". To use one of Chen's (2013) examples: "if I wanted to explain to an English-speaking colleague why I can't attend a meeting later today, I could not say 'I go to a seminar'. English grammar would oblige me to say 'I will go,' 'I am going,' or 'I have to go to a seminar.' If on the other hand I were speaking Mandarin, it would be quite natural for me to omit any marker of future time and say the equivalent of I go listen to a seminar, with no reference to future time, since the context leaves little room for misunderstanding. In this way, English forces its speakers to habitually divide time between the present and the future in a way that Mandarin (which has no tenses) does not." According to Chen's hypothesis, in our specification therefore *Futureless language*s should be positively correlated to educational performance.

In Table 13, Panel A, we report the impact of speaking a futureless language on all our measures of educational performance: The similarity with our main results is remarkably strong, in terms of both magnitude and significance. We match all the immigrants with Chen's linguistic measure using the language spoken at home. One big advantage of matching directly on language is the possibility of including (at least for the first generation) country of origin fixed effects, further reducing the possibility that our results are driven by unobservable country of origin characteristics. Performing this very demanding test does not change the nature of our results: linguistic differences that proxy for a different weight to future and present choices are sufficient in explaining differences in educational performance (Table 13, Panel B).

The fraction of students speaking a futureless language in our sample is not very large (2%) given the large fraction of Spanish speaking students (coded as zero). Therefore, we also run our regressions excluding from the sample Spanish speaking countries from both the pooled sample and the first generation sample and the results do not change (Table A9).

Galor and Ozak (2016) study the origins of the distribution of Long-Term Orientation across the world. They establish empirically that these differences can be traced back to geographical variations in the return to agricultural investment in pre-industrial societies: societies whose ancestors experienced a higher crop yield are characterized by higher Long-Term Orientation today. The authors test their hypothesis constructing a measure of the potential caloric yield per hectare for each country. Their historical measure of crop yield is constructed based on data from the Global Agro-Ecological Zones (GAEZ) project of the Food and Agriculture Organization (FAO). The GAEZ project supplies global estimates of crop yield for a variety of crops in grids with cell size of 5' X 5'. For each crop, GAEZ also provides estimates for crop yield based on three alternative levels of inputs (high, medium and low) and two source of water supply (rain-fed and irrigation). The authors construct their measure under low level of inputs and rain-fed agriculture to limit concerns of endogeneity due to human intervention.[41]

We use the measure constructed by Galor and Ozak (2016) and test its relevance for the determination of school performance. Panel C establishes a positive statistically and economically significant effect of crop yield on school performance. In particular, the OLS effects suggest that the magnitude of the beta coefficients is very similar to the magnitude of Hofstede's Long-Term orientation measure (for example, the beta coefficients for math score and math change are 0.097 and 0.089). Consistent with Galor and Ozak's (2016) theory, individuals whose ancestors experienced higher crop yields exhibit long-term oriented behavior. [42]

[41] We use the ancestry adjusted measure for the post-1500 CE period. Given the large fraction of migrants speaking Spanish and coming from the new world, where intercontinental migration and population replacement were very high, we limit our attention to the Old World sample. For further details about the construction of this measure see Galor and Ozak (2016).

[42] In a recent paper, Dohmen et al. (2015) construct a measure of patience which should isolate the trade-offs between immediate and delayed monetary rewards. This measure is part of a larger project, the Global Preference Survey, measuring time preferences, risk preferences, social preferences and trust from representative populations of 76 countries. The patience measure is derived from a combination of responses to two survey measures, one with a quantitative and one with a qualitative format. These two were the best predictors of behavior in experiments involving incentive choices between earlier versus later rewards with a time delay of 12 months, therefore capturing annual discounting. We would like to test the robustness of our results to this measure, when the data will be made available from the authors to other scholars.

2.6 Relative performance of immigrants and natives

One final concern with our analysis is the possibility that immigrants (especially the first generation) face a disadvantage in their new school environment. Our regressions could therefore pick up a reversion to the mean (the average performance of natives). To show that this is not the pattern in the data, we plot the performance of migrants compared to the group of natives. To perform this exercise, we keep students who are observed in our panel from grade 3 to grade 8, we then first collapse math and reading scores by country of origin (or language spoken at home) and then by immigrant group (first and second generation).

In Figure 6A we report the performance of natives, first, and second generation immigrants from grade 3 to grade 8. Not only immigrants start at higher level compared to the natives but their performance also continues to increase over time, whereas the performance of natives stays flat. Given the large difference in educational performance by race in the United States, in the same figure we also report test scores for native whites. Although the scores of white students are higher in level when compared to the overall sample, immigrants tend to out-perform white natives over time in both mathematics and reading[43]. Once again, the performance of white natives is flat over time. In comparing the first and the second generation, it appears that the second generation tends to be closer to the natives. This result is not surprising as these children are born and raised in the US and, therefore, they are less isolated from the dominant culture.[44]

Since part of the immigrants' school performance appears to be driven by school selection, to gain further understanding of the differences between immigrants and natives, we also compare the three groups in the best schools (those receiving a score of A). Schools have definitely a strong relationship with educational performance (the scores are higher for the three groups compared to the averages in the overall sample) but the differential patterns between the three groups remain the same. This is an important result. It suggests that immigrants outperform natives, even holding constant the school institutional environment (Figure 6B), and it is consistent with Chetty and Hendren (2015)'s finding that local conditions matter less for immigrants. In Figure 7 we plot the performance in mathematics and reading by Long-Term Orientation quartiles and for white natives. Note that the Long-Term Orientation for the United States is 0.26, close to the lowest quartile of our immigrants'

[43] White natives have slightly higher scores in reading only at grade 3.

[44] Second generation immigrants in our sample are not the children of the first generation in our sample. The differences compared to the white could still be due to differences in the cohort of migration of the first generation.

distribution.[45] We find a remarkably monotonic effect of Long-Term Orientation on math and reading scores: only immigrants with Long-Term Orientation lower than the natives perform worse in both mathematics and reading.

Overall, these results suggest that especially immigrants with higher Long-Term Orientation lose some of their cultural advantages when they assimilate to the US culture. In our setting, it is hard to measure the full effect of assimilation because, by definition, our immigrants have not fully assimilated as they continue to speak a language different from English. Özek and Figlio (2016) find that the Asian or Hispanic students who speak English at home perform worse than other Asian and Hispanic students who are first or second generation immigrants. The broader classification based on race, however, could mask large differences in composition because each race shows a large heterogeneity in terms of cultural values.

3. External Validity from the Program for International Student Assessment (PISA)

For external validity, we use student-level data from the Program for International Student Assessment (PISA), an internationally standardized assessment conducted by the Organization of Economic Cooperation and Development (OECD) and administered to 15-year olds students every three years since 2000. We use the 2003, 2006, 2009 and 2012 waves.[46] PISA contains information on the country of origin of children and their parents. The analysis based on this dataset can therefore be more precise for second generation immigrants, since it is based on the parental country of origin and not the language spoken at home. For consistency with the Florida analysis, we define second generation immigrants based on maternal information.[47] The list of countries of origin for first and second generation is provided in the appendix (Table A11).[48]

PISA assesses a range of relevant skills in three main domains: mathematics, reading, and science. For these domains PISA presents the test scores in standardized forms, with mean of 500 test-score points and a standard deviation of 100 test-score points across OECD countries.[49] To make

[45] Long-Term Orientation for the bottom 25th percentile is 0.21.
[46] We use these waves because in 2000 the information about the countries of origin of the parents is not provided (the questionnaire only asks if the students and/or their parents were born in the country where the student took the test).
[47] Results based on fathers' country of origin are presented in Table A12 of the Appendix. They show that the effects are very similar.
[48] The countries of destination included in our analysis are reported in Table A11.
[49] For details on how PISA reports student scores see the on-line Appendix.

these results comparable with the analysis for Florida we re-standardized all the scores to zero mean and unit variance.

In addition to test scores, PISA also provides information on retention and truancy. Retention is a dummy variable equal to 1 if a student repeated at least one year during his/her school career and 0 if she/he did not. Truancy is a dummy variable equal to 1 if the student reported that in the last two full weeks of school he/she skipped a whole school day more than once, and zero otherwise.[50] Descriptive statistics for our sample are provided in Table 14.

Overall we are able to provide external validity for most of the outcomes present in the FLDOE dataset, the only exception being the changes in mathematics and reading scores over time, which cannot be calculated due to the cross-sectional nature of PISA.

We start by examining the raw correlations between Long-Term Orientation and the five educational outcomes for both first and second generation immigrants (Figures 8 and 9). Although we are now observing immigrants or their children in thirty-seven different destination countries, the basic correlation between Long-Term Orientation and educational performance appears to be very similar to the one observed among immigrants in Florida.

The results are confirmed when we run individual level regressions for the two immigrant groups (Tables 15 and 16). Our specification is similar to the Florida dataset. Our controls include gender, age, parental education, grade and country of destination fixed effects (columns 1-5 of Tables 15-16). PISA also contains an index for family wealth, an important control as differences in educational performance could be driven by differences in the initial level of resources among different immigrant groups. We control for this index in columns 6-10. The inclusion of wealth, if something, makes our results more precisely estimated. The results are similar between the two groups, though slightly stronger for second generation immigrants. Despite we use a very different set of destination countries from the US, it is remarkable that the magnitudes of the Long-Term Orientation beta coefficients reported at the bottom of each table have a similar order of magnitude to the Long-Term Orientation beta coefficients estimated in the Florida sample.

Finally, Figures 10 and 11 present binned scatter plots of the mean of different educational outcomes for first and second generation students in PISA versus the mean level of Long-Term Orientation. As for Figures 4 and 5 to construct this figure, we divided the horizontal axis into 40 equal-sized (percentile) bins and plotted the mean education outcome versus the mean level of Long-

[50] This variable is present only in the 2012 PISA wave.

Term Orientation in each bin (using OLS regressions on the microdata). Consistent with our regression results, we do find a significantly strong relationship between Long-Term Orientation and educational outcomes for both generations.

4. Conclusions

This paper explores the role of Long-Term Orientation on educational attainment and outcomes. It establishes that, controlling for the quality of schools and individual characteristics, immigrant students from countries with long term oriented attitudes perform better in school than immigrants from countries that do not emphasize the importance of delayed gratification. Coming from a long term oriented country not only gives students an initial advantage when they first test in grade 3 in both math and reading, it also has an additional strong effect over time, as the performance of these students continues to improve relatively to students coming from less long term oriented cultures. Also, students from long term oriented cultures have fewer absences, fewer disciplinary incidents, are less likely to repeat the same grade and are more likely to graduate from high school in four years. Finally, they are more likely to enroll in advanced level classes while in high school and to be more likely to select, among these, scientific subjects.

Parental intervention appears to be an important channel of cultural transmission: Parents are more likely to choose highly ranked schools and to advocate for inclusion in gifted programs, controlling for students' achievement level. At the same time, we also find that the composition of the school, in particular the fraction of children speaking the same language, magnifies the effect of Long-Term Orientation on educational performance. Both results are consistent with the idea that social learning (Boyd et al., 2011) is an important channel of cultural transmission: children are more likely to internalize the value transmitted by their parents if people around them (family and peers) behave in a similar way.

Our results also show that, independently from formal institutions (schools and neighborhoods), both first and second generation immigrants from countries with longer term oriented attitudes than the US perform substantially better than native US students. We validate these results with a sample of student immigrants to other non–US countries.

Our results can finally shed light on the remarkable persistence found in the educational literature. Besides income, wealth, and education, parents transmit cultural traits to their children. If Long-Term Orientation is an important trait to explain educational outcomes, disentangling its independent effect on educational outcomes is important for policy implications. Our results can

partially explain why the exogenous effect of a sudden shock to income, albeit significant, has a relatively small economic impact on future generations, especially if compared with the limited mobility across generations.

Our results may also shed light on why, despite the importance of socioeconomic background for students' achievement, a substantial exogenous shock to wealth has limited or no effect on future generations. Bleakley and Ferrie (2016) find indeed that the children and grandchildren of winners of the 1832 Cherokee Land Lottery did not experience better educational outcomes than non-winners, suggesting that wealth shocks alone are insufficient to have persistent effects in the formation of human capital of future generations. More importantly, it suggests that part of the correlation that we observe across generations in educational achievement is driven by some other characteristics different from wealth that are transmitted along family lines. In this paper, we have shown evidence consistent with Long-Term Orientation being culturally transmitted from parents to children.

Beyond finding evidence of parental transmission of values, our results are also consistent with the existence of non-parental channels of cultural transmission, consistently with Algan et al. (2013). Our findings that the impact of Long-Term Orientation also depends on school composition could also explain why observed school quality do not fully account for the differences across schools in the number of high-achieving students (Ellison et al., 2016) suggesting that the school's cultural composition may potentially play an important role in students' performance. The full impact of schools' cultural composition on the educational performance of the overall student body is left for future research.

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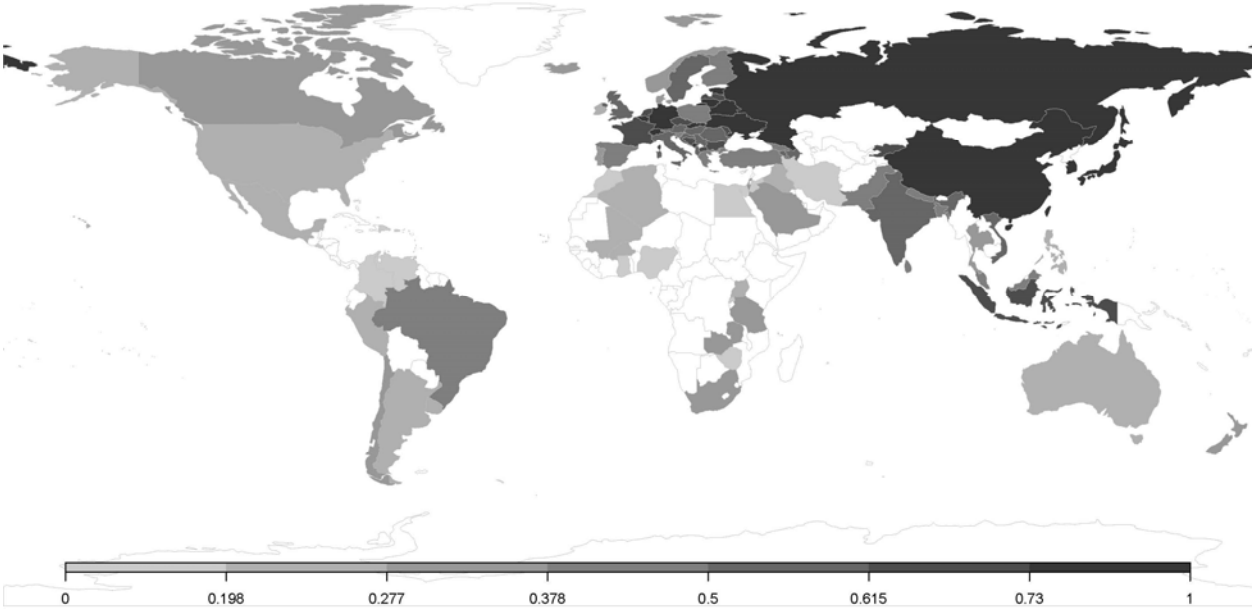
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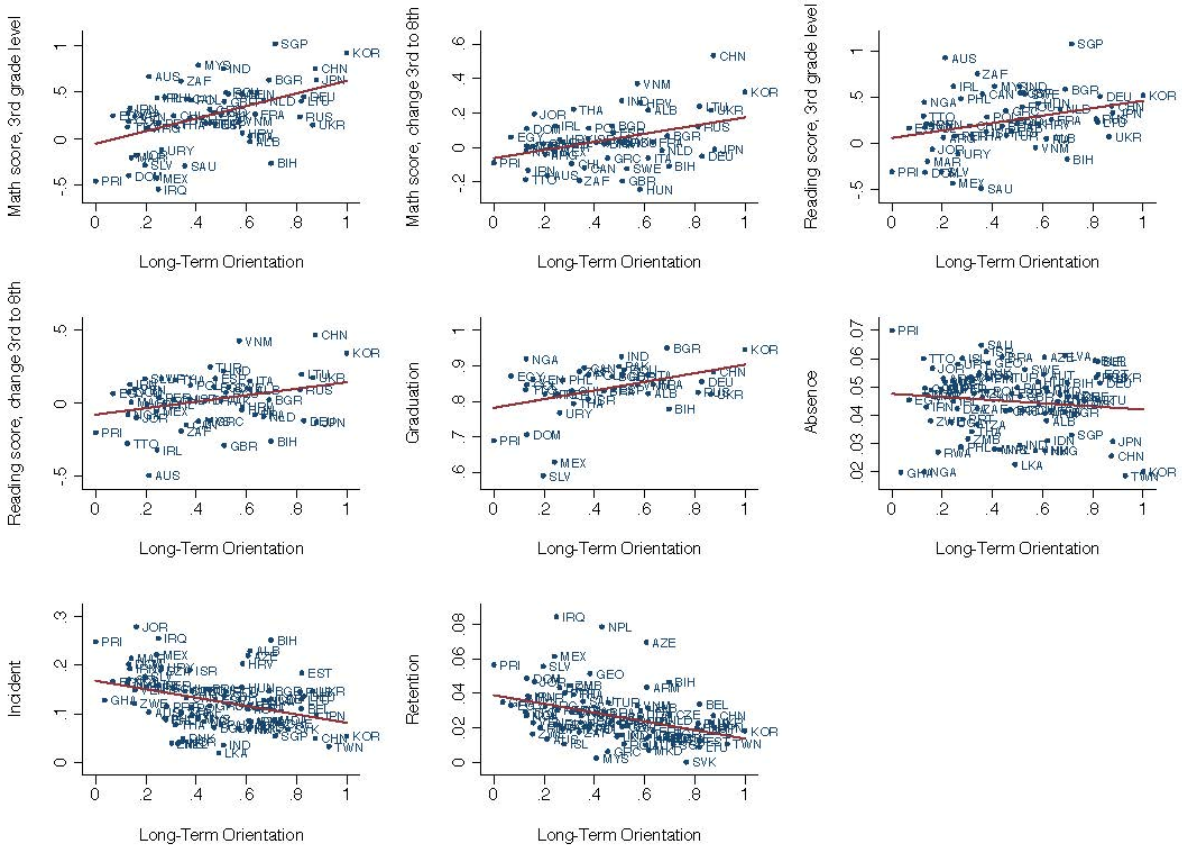
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Figure 1
Long-Term Orientation, Hofstede (2010)



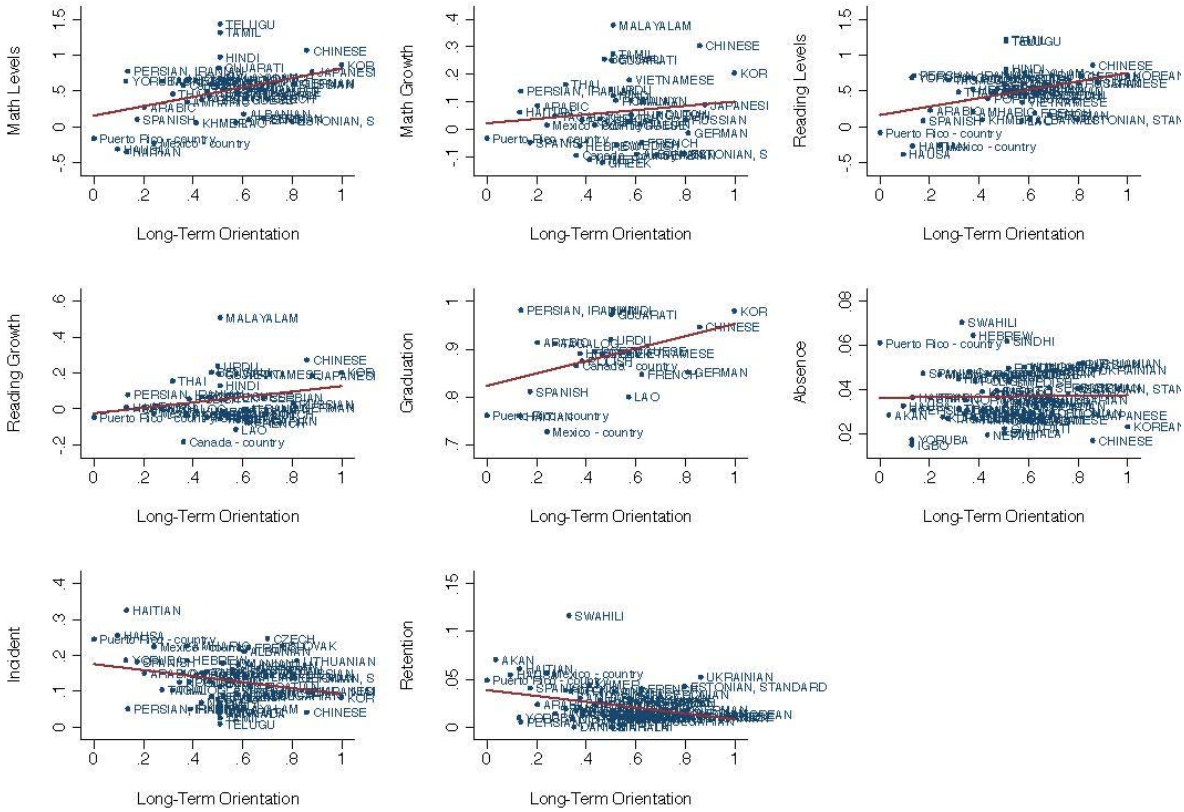
Note: White areas indicate missing values

Figure 2
Long-Term Orientation and educational outcomes, raw correlation, FLDOE
First generation immigrants



For purposes of confidentiality, we only show data points for countries of origin where we observe at least 50 individuals.

Figure 3
Long-Term Orientation and educational outcomes, raw correlation, FLDOE
Second generation immigrants



For purposes of confidentiality, we only show data points for languages where we observe at least 50 individuals.

Figure 4
Long-Term Orientation and educational outcomes, bin-scatters, FLDOE
First generation immigrants

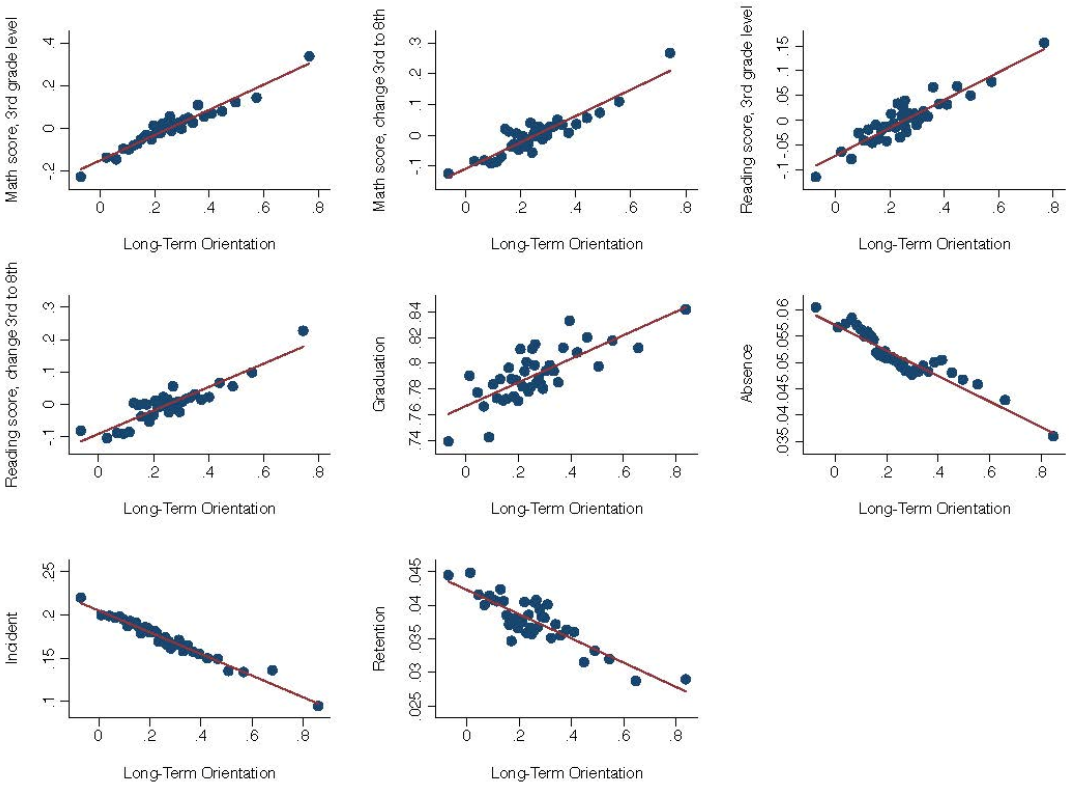


Figure 5
Long-Term Orientation and educational outcomes, bin-scatters, FLDOE
Second generation immigrants

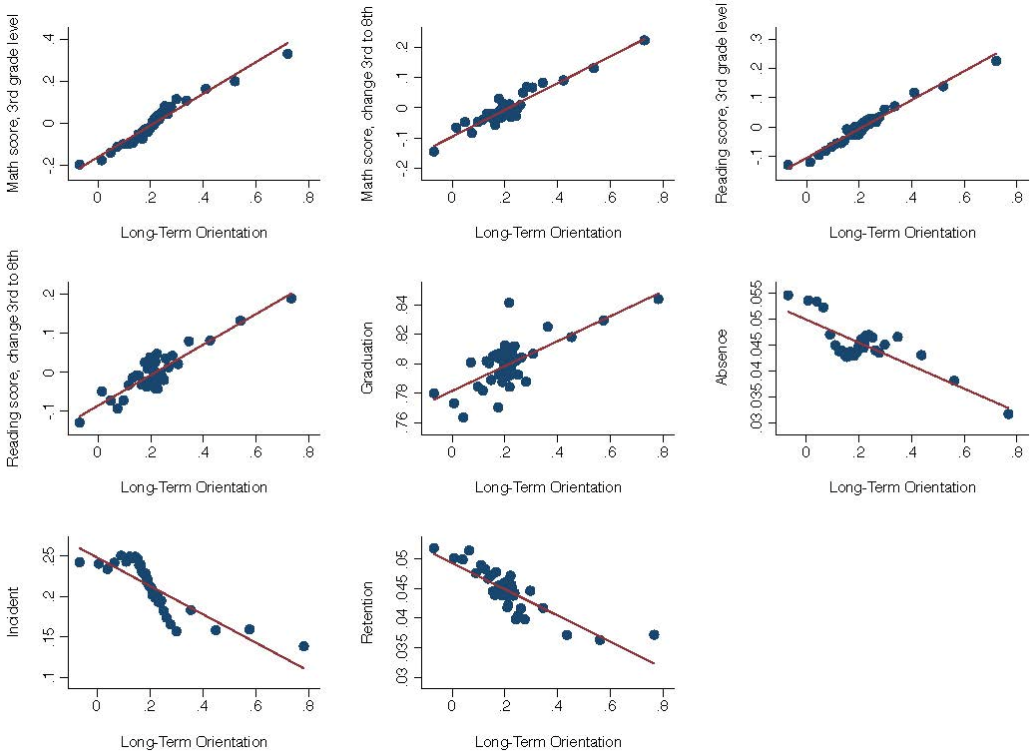


Figure 6A
Long-Term Orientation and educational outcomes, FLDOE
Native, First and Second Generation immigrants

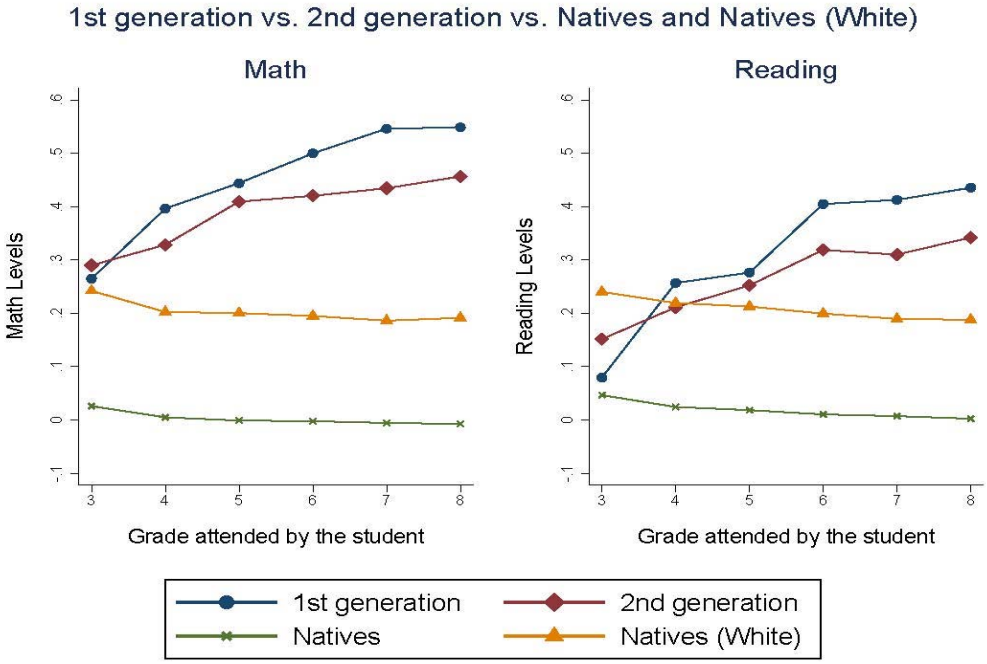


Figure 6B
Long-Term Orientation and educational outcomes, FLDOE
Native, First and Second generation immigrants, Grade A Schools

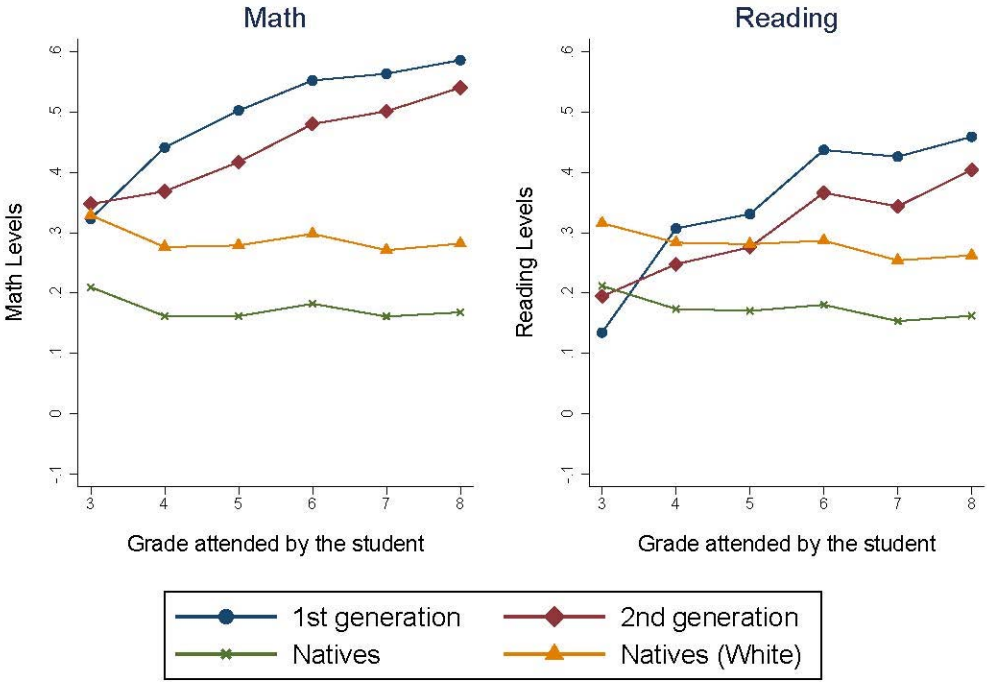


Figure 7
Long-Term Orientation and educational outcomes, FLDOE
by Long-Term Orientation quartiles

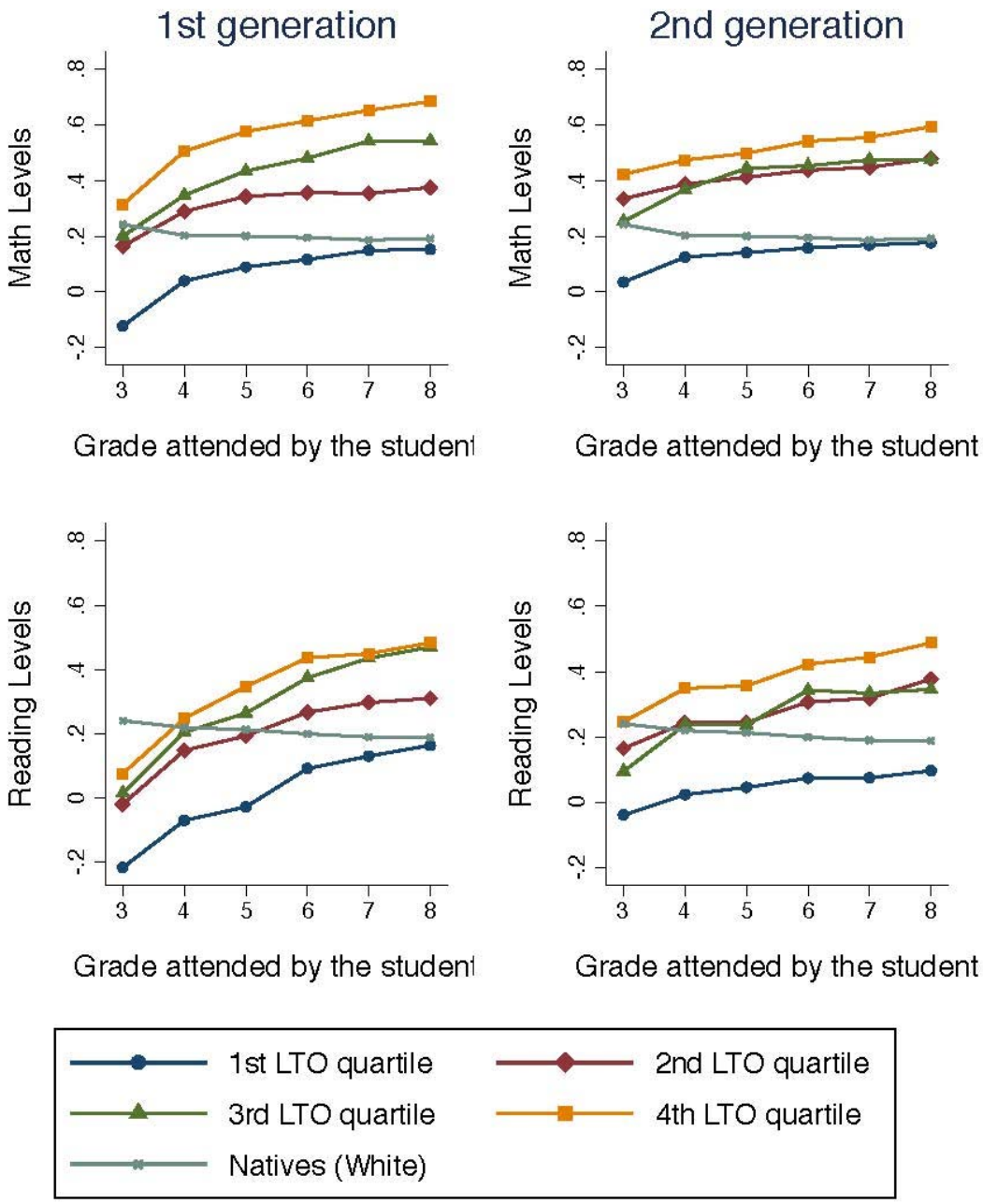


Figure 8
Long-Term Orientation and educational outcomes, raw correlations, PISA
First generation immigrants

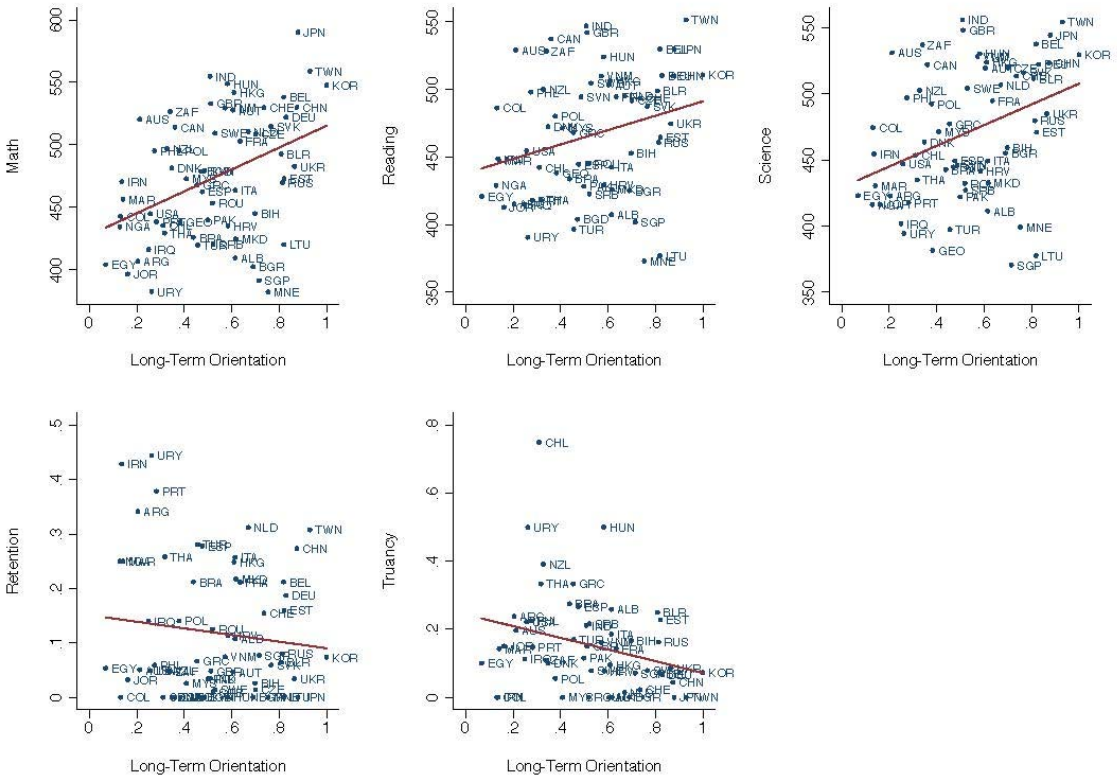


Figure 9
Long-Term Orientation and educational outcomes, raw correlations, PISA
Second generation immigrants (maternal side)

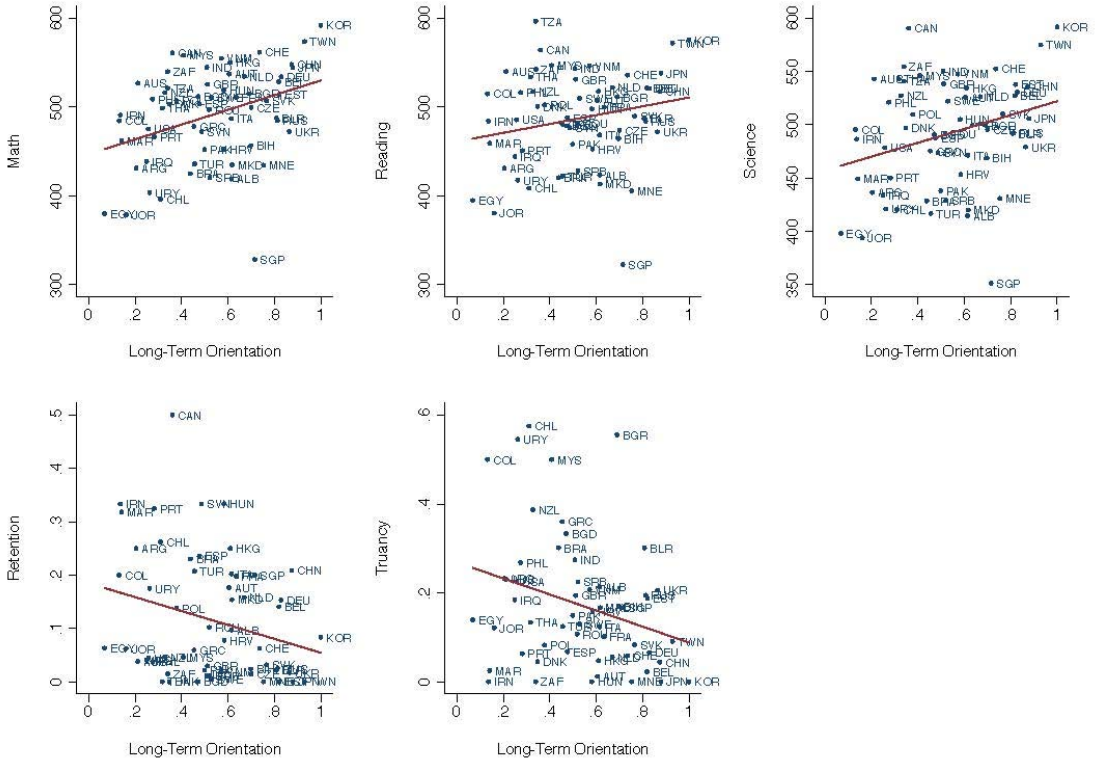


Figure 10
Long-Term Orientation and educational outcomes, bin-scatters, PISA
First generation immigrants

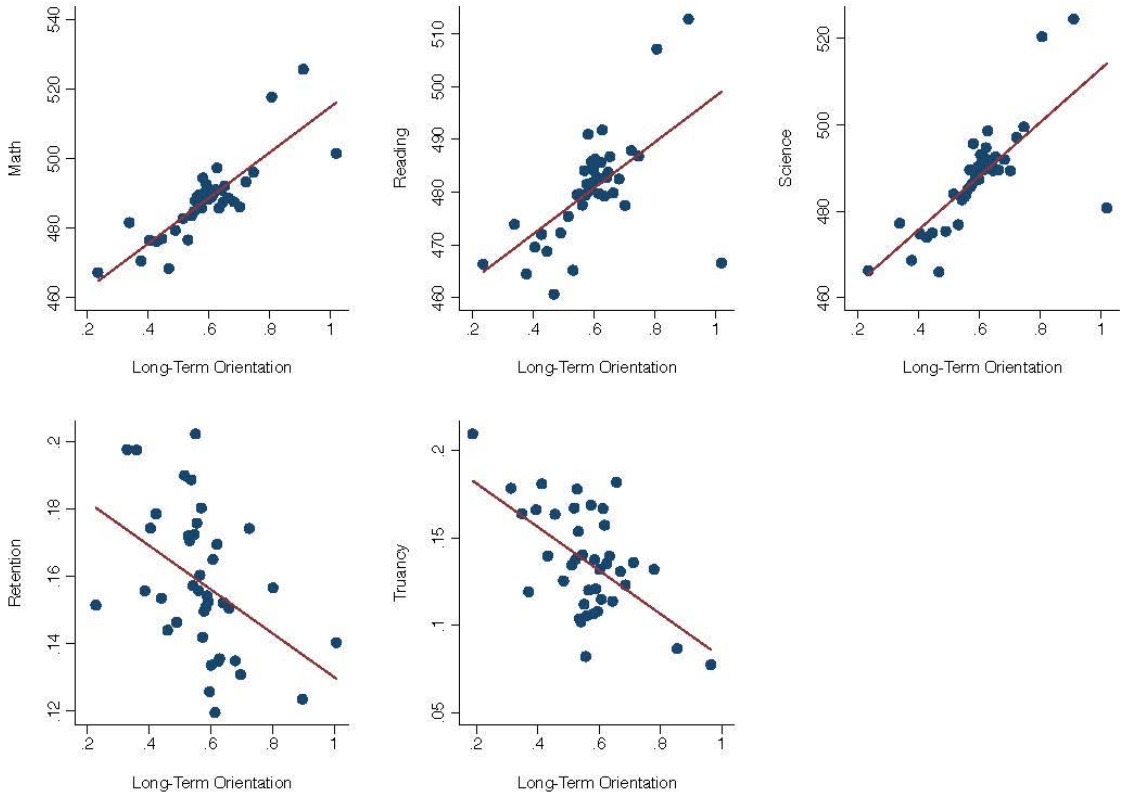


Figure 11
Long-Term Orientation and educational outcomes, bin-scatters, PISA
Second generation immigrants (maternal side)

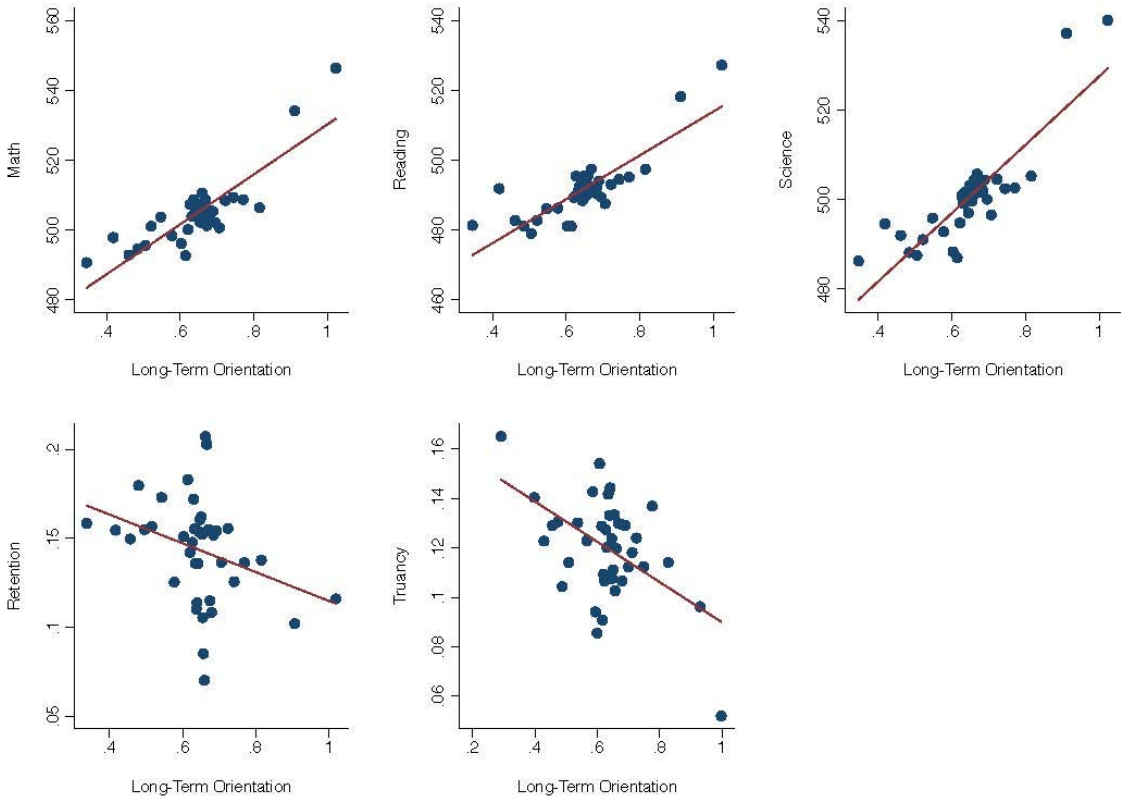


Table 1
Descriptive statistics, Florida Department of Education Dataset

PANEL A

	1st generation			2nd generation (extended definition)			2nd generation		
	Obs.	Mean	St. dev.	Obs.	Mean	St. dev.	Obs.	Mean	St. dev.
Long-Term Orientation*	724,946	0.257	0.200	2,166,731	0.207	0.141	1,023,304	0.213	0.154
Math score, 3rd grade	69,652	0.000	1.000	305,382	0.000	1.000	160,763	0.000	1.000
Math score, change 3rd to 8th	28,046	0.000	0.783	107,053	0.000	0.775	55,880	0.000	0.773
Reading score, 3rd grade	69,600	0.000	1.000	305,358	0.000	1.000	160,756	0.000	1.000
Reading score, change 3rd to 8th	27,931	0.000	0.843	106,543	0.000	0.813	55,586	0.000	0.803
Graduation	24,067	0.791	0.407	57,130	0.769	0.421	25,684	0.800	0.400
% Absent Days	724,946	0.051	0.070	2,166,731	0.053	0.071	1,023,304	0.045	0.063
Disciplinary Incident	451,227	0.173	0.378	1,163,755	0.227	0.419	524,262	0.211	0.408
Retention	579,293	0.038	0.190	1,771,660	0.046	0.210	844,819	0.045	0.206
Male*	724,946	0.512	0.500	2,166,731	0.510	0.500	1,023,304	0.505	0.500
Age in months*	724,946	148.449	31.452	2,166,731	142.709	30.895	1,023,304	141.271	30.739
Special education*	724,946	0.080	0.271	2,166,731	0.143	0.350	1,023,304	0.136	0.343
Free or Reduced Priced Lunch*	724,946	0.610	0.488	2,166,731	0.709	0.454	1,023,304	0.725	0.446
Enrolled in Limited English proficiency program*	724,946	0.333	0.471	2,166,731	0.159	0.366	1,023,304	0.127	0.333
Enrolled in Limited English proficiency in grade 3	28,046	0.417	0.493	107,053	0.217	0.412	55,880	0.211	0.408
Log GDP pc year 2000 ppp	69,649	3.182	0.683	304,449	3.128	0.450	160,241	3.112	0.531
Distance from the US (log)	69,652	8.390	0.591	305,382	8.260	0.422	160,763	8.232	0.494
Savings over GDP/100	69,637	0.215	0.084	304,522	0.209	0.043	160,331	0.205	0.050
Education selection to Florida	69,031	0.427	0.247	295,119	0.427	0.173	155,048	0.437	0.225
Mean PISA score in Math	54,535	4.107	0.477	54,797	4.300	0.493	46,963	4.252	0.454
Mother high school graduate	-	-	-	184,331	0.340	0.474	-	-	-
Mother attended some college	-	-	-	184,331	0.173	0.378	-	-	-
Mother 4yr college graduate	-	-	-	184,331	0.136	0.342	-	-	-
Mother teen pregnancy	-	-	-	184,331	0.010	0.099	-	-	-
Mother married at time of birth	-	-	-	184,331	0.630	0.483	-	-	-
Number of older siblings	-	-	-	184,331	1.050	1.221	-	-	-
Median income in zipcode of birth (100,000 of $)	-	-	-	184,331	42,199	13,764	-	-	-

PANEL B

1st generation + 2nd generation (extended definition)			
	Obs.	Mean	St. dev.
Fraction speaking the same language (log)*	384,139	-0.709	1.255
Fraction of advanced classes	512,070	0.058	0.145
Fraction of advanced classes (scientific subjects)	512,070	0.013	0.054
Math score, 8th grade	512,070	0.042	0.982
School Letter Score (from A to F) at t-1, (pre-) kindergarten	243,233	4.119	0.991
School Letter Score (from A to F) at t-1, all grades	3,478,545	4.128	1.012
Gifted in grade 4	26,308	0.112	0.316
Futureless Language (Chen)*	1,942,897	0.019	0.135
Maximum Crop Yield (Galor)*	373,220	8.593	2.298

Notes. The table reports sample statistics for the FLDOE sample and various country of origin level controls. All the variables, as well as the definitions of first and second generation immigrants are described in details in the text and the Online Appendix. The statistics marked with an asterisk (*) are calculated based on the sample used to run the regressions with the dependent variable "% Absent Days" (i.e., the specification where the largest sample is used). The statistics for the variable "Enrolled in Limited English proficiency in grade 3" are calculated based on the sample used to run the regression on the variable "Math score, change 3rd to 8th".

Table 2
Long-Term Orientation and school performance in mathematics, FLDOE
First generation immigrants

	Sample: 1st generation							
	Whole sample				Language restriction			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Math score, 3rd grade		Math score, change 3rd to 8th		Math score, 3rd grade		Math score, change 3rd to 8th	
Long-Term Orientation	**0.597*** **	**0.336*** **	**0.217** **	**0.217** **	**0.814*** **	**0.591*** **	**0.454*** **	**0.427*** **
	(0.136)	**(0.123)**	**(0.100)**	**(0.091)**	**(0.145)**	**(0.135)**	**(0.119)**	**(0.111)**
Male	0.081***	0.121***	-0.015	-0.003	0.078***	0.116***	-0.006	0.007
	(0.009)	(0.006)	(0.010)	(0.010)	(0.011)	(0.007)	(0.008)	(0.008)
Age in months	-0.016***	-0.005***	-0.020***	-0.017***	-0.014***	-0.004***	-0.020***	-0.017***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)
Free or Reduced Priced Lunch		-0.202***		-0.069***		-0.191***		-0.068***
		(0.019)		(0.013)		(0.017)		(0.014)
Special education		-0.674***		-0.353***		-0.654***		-0.352***
		(0.029)		(0.022)		(0.030)		(0.023)
Enrolled in Limited English proficiency program		-0.660***				-0.671***		
		(0.026)				(0.026)		
Enrolled in Limited English proficiency in grade 3				0.120***				0.099***
				(0.020)				(0.019)
Math score, 3rd grade			-0.348***	-0.357***			-0.360***	-0.370***
			(0.015)	(0.017)			(0.014)	(0.016)
Observations	81,986	81,977	32,895	32,895	69,659	69,652	28,046	28,046
R-squared	0.337	0.441	0.386	0.399	0.353	0.458	0.405	0.417
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent Variable (sd)	1.000	1.000	0.779	0.779	1.000	1.000	0.783	0.783
Long-Term Orientation (mean)	0.307	0.307	0.304	0.304	0.255	0.255	0.254	0.254
Long-Term Orientation (sd)	0.241	0.241	0.236	0.236	0.192	0.192	0.190	0.190
Long-Term Orientation (beta)	0.144	0.081	0.066	0.066	0.156	0.113	0.110	0.103
N_clust	93	93	90	90	89	89	84	84

Notes. The table reports OLS estimates, with standard errors clustered at the country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. In columns 1-4, the sample includes first generation immigrants defined using the information on the country of origin. In columns 5-8, the sample includes first generation immigrants defined using both the information on the country of origin and the language spoken at home (see online Appendix for details). The dependent variables are: students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1) and the change in math score from grade 3 to grade 8. Individual controls are: age in months, a male dummy, an indicator variable for free or reduced free lunch eligibility, a dummy indicating if the student is enrolled in a limited English proficiency program and indicator for special education needs. Columns 3-4, 7-8 also control for the math score in grade 3. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 3
Long-Term Orientation and additional educational outcomes, FLDOE
First generation immigrants

VARIABLES	(1) Reading score, 3rd grade	(2) Reading score, change 3rd to 8th	(3) Graduation	(4) % Absent Days	(5) Disciplinary Incident	(6) Retention
Long-Term Orientation	**0.281*** **	**0.362*** **	**0.092*** **	**-0.024*** **	**-0.125*** **	**-0.018*** **
	(0.086)	**(0.116)**	**(0.031)**	**(0.008)**	**(0.023)**	**(0.006)**
Male	-0.055***	-0.042***	-0.033***	-0.002***	0.090***	0.011***
	(0.007)	(0.011)	(0.004)	(0.000)	(0.006)	(0.001)
Age in months	-0.005***	-0.012***	-0.004***	0.001***	0.005***	-0.000***
	(0.001)	(0.002)	(0.001)	(0.000)	(0.000)	(0.000)
Free or Reduced Priced Lunch	-0.200***	-0.109***	0.002	-0.003	0.039***	0.005***
	(0.016)	(0.017)	(0.009)	(0.002)	(0.005)	(0.001)
Special education	-0.676***	-0.436***	-0.203***	0.009***	0.059***	0.032***
	(0.018)	(0.029)	(0.023)	(0.002)	(0.003)	(0.005)
Enrolled in Limited English proficiency program	-0.839***		-0.393***	0.007***	0.010**	0.035***
	(0.022)		(0.015)	(0.001)	(0.005)	(0.003)
Enrolled in Limited English proficiency in grade 3		0.035				
		(0.023)				
Reading score, 3rd grade		-0.446***				
		(0.016)				
Observations	69,600	27,931	24,067	724,946	451,227	579,293
R-squared	0.473	0.426	0.383	0.185	0.123	0.114
Year*school FE	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.791	0.051	0.173	0.038
Dependent Variable (sd)	1.000	0.843	0.407	0.070	0.378	0.190
Long-Term Orientation (mean)	0.255	0.254	0.262	0.257	0.259	0.256
Long-Term Orientation (sd)	0.192	0.189	0.203	0.200	0.202	0.197
Long-Term Orientation (beta)	0.054	0.081	0.046	-0.069	-0.067	-0.019
N_clust	89	84	88	92	92	92

Notes. The table reports OLS estimates, with standard errors clustered at the country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes first generation immigrants defined using the information on the country of origin and the language spoken at home. The dependent variables are: students' Florida Comprehensive Assessment Test reading score in grade 3 (standardized with mean 0 and variance 1), the change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year) and retention (an indicator for whether the student repeats the same grade at least once) measured in grades 3-12, and disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident defined as serious offences often leading to suspension) measured in grades 6-12. Individual controls are the same as in Table 2. In column 2 we also control for the reading score in grade 3. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 4
Long-Term Orientation and educational performance, FLDOE
Second generation immigrants

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.752*** **	**0.441*** **	**0.494*** **	**0.390*** **	**0.084*** **	**-0.022** **	**-0.175*** **	**-0.022*** **
	(0.131)	**(0.109)**	**(0.078)**	**(0.090)**	**(0.009)**	**(0.009)**	**(0.046)**	**(0.005)**
Male	0.127***	-0.031***	-0.068***	-0.051***	-0.049***	-0.000	0.093***	0.014***
	(0.024)	(0.008)	(0.017)	(0.010)	(0.004)	(0.000)	(0.006)	(0.002)
Age in months	-0.012***	-0.018***	-0.014***	-0.013***	-0.006***	0.001***	0.007***	-0.001***
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Free or Reduced Priced Lunch	-0.241***	-0.056***	-0.245***	-0.090***	-0.008	0.001	0.048***	0.009***
	(0.014)	(0.013)	(0.014)	(0.013)	(0.007)	(0.002)	(0.006)	(0.001)
Special education	-0.650***	-0.234***	-0.739***	-0.183***	-0.161***	0.006***	0.027***	0.033***
	(0.027)	(0.009)	(0.023)	(0.012)	(0.003)	(0.000)	(0.003)	(0.001)
Enrolled in Limited English proficiency program	-0.657***		-0.727***		-0.304***	0.004***	0.043***	0.069***
	(0.019)		(0.029)		(0.019)	(0.001)	(0.006)	(0.004)
Enrolled in Limited English proficiency in grade 3		-0.029**		-0.127***				
		(0.014)		(0.015)				
Math score, 3rd grade		-0.364***						
		(0.010)						
Reading score, 3rd grade				-0.414***				
				(0.009)				
Observations	160,763	55,880	160,756	55,586	25,684	1,023,304	524,262	844,819
R-squared	0.372	0.344	0.386	0.325	0.345	0.224	0.140	0.116
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.800	0.045	0.211	0.045
Dependent Variable (sd)	1.000	0.773	1.000	0.803	0.400	0.063	0.408	0.206
Long-Term Orientation (mean)	0.215	0.218	0.215	0.218	0.216	0.213	0.213	0.213
Long-Term Orientation (sd)	0.153	0.160	0.153	0.160	0.159	0.154	0.156	0.154
Long-Term Orientation (beta)	0.115	0.091	0.076	0.078	0.034	-0.054	-0.067	-0.017
N_clust	88	79	88	79	65	88	82	88

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. The dependent variables are: students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1), change in math score from grade 3 to grade 8, reading score in grade 3 (standardized with mean 0 and variance 1), change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering 9th grade for the first time), high school graduation (a dummy for whether the student received a standard diploma within four years after entering 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year) disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident defined as serious offences often leading to suspension) measured in grades 6-12, and retention (an indicator for whether the student repeats the same grade at least once) measured in grades 3-12,. Individual controls are the same as in Table 2. Columns 2 and 4 also control for the math score and reading score in grade 3, respectively. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 5
Long-Term Orientation and educational performance, FLDOE
Second generation immigrants, extended definition

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.769*** **	**0.494*** **	**0.502*** **	**0.447*** **	**0.127*** **	**-0.026*** **	**-0.178*** **	**-0.025*** **
	(0.120)	**(0.100)**	**(0.059)**	**(0.087)**	**(0.019)**	**(0.008)**	**(0.037)**	**(0.003)**
Male	0.134***	-0.024***	-0.062***	-0.048***	-0.043***	-0.001***	0.096***	0.014***
	(0.017)	(0.007)	(0.013)	(0.004)	(0.001)	(0.000)	(0.002)	(0.001)
Age in months	-0.012***	-0.019***	-0.013***	-0.014***	-0.006***	0.001***	0.007***	-0.000***
	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Free or Reduced Priced Lunch	-0.240***	-0.064***	-0.250***	-0.094***	-0.014***	0.002	0.056***	0.010***
	(0.010)	(0.009)	(0.008)	(0.008)	(0.005)	(0.002)	(0.004)	(0.001)
Special education	-0.662***	-0.265***	-0.753***	-0.207***	-0.188***	0.007***	0.035***	0.032***
	(0.017)	(0.008)	(0.020)	(0.007)	(0.006)	(0.000)	(0.002)	(0.001)
Enrolled in Limited English proficiency program	-0.633***		-0.709***		-0.322***	0.007***	0.038***	0.052***
	(0.005)		(0.013)		(0.005)	(0.001)	(0.004)	(0.003)
Enrolled in Limited English proficiency in grade 3		0.017		-0.076***				
		(0.018)		(0.018)				
Math score, 3rd grade		-0.370***						
		(0.007)						
Reading score, 3rd grade				-0.422***				
				(0.005)				
Observations	305,382	107,053	305,358	106,543	57,130	2,166,731	1,163,755	1,771,660
R-squared	0.342	0.310	0.354	0.292	0.344	0.204	0.129	0.094
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.769	0.053	0.227	0.046
Dependent Variable (sd)	1.000	0.775	1.000	0.813	0.421	0.071	0.419	0.210
Long-Term Orientation (mean)	0.209	0.211	0.209	0.211	0.208	0.207	0.206	0.206
Long-Term Orientation (sd)	0.144	0.147	0.144	0.147	0.142	0.141	0.141	0.141
Long-Term Orientation (beta)	0.111	0.094	0.072	0.081	0.043	-0.052	-0.060	-0.017
N_clust	93	85	93	85	83	96	92	95

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. The dependent variables measure students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1), the change in math score from grade 3 to grade 8, reading score in grade 3 (standardized with mean 0 and variance 1), change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year), disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident, defined as serious offences often leading to suspension), and retention (an indicator for whether the student repeats the same grade at least once). Individual controls are the same as in Table 2. Columns 2 and 4 also control for the math score and reading score in grade 3, respectively. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 6
Long-Term Orientation and educational performance, controlling for maternal characteristics, FLDOE
Second generation immigrants, extended definition

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Math score, 3rd grade					
Long-Term Orientation	**0.734*** **	**0.757*** **	**0.720*** **	**0.757*** **	**0.750*** **	**0.697*** **
	(0.128)	**(0.125)**	**(0.123)**	**(0.123)**	**(0.122)**	**(0.124)**
Mother high school graduate	0.107***					0.083***
	(0.021)					(0.020)
Mother attended some college	0.206***					0.170***
	(0.022)					(0.020)
Mother 4yr college graduate	0.385***					0.337***
	(0.017)					(0.015)
Mother teen pregnancy		-0.132***				-0.070***
		(0.019)				(0.024)
Mother married at time of birth			0.128***			0.102***
			(0.011)			(0.007)
Number of older siblings				-0.027***		-0.028***
				(0.003)		(0.004)
Median income in zipcode of birth (100,000 of $)					0.297***	0.173***
					(0.028)	(0.026)
Observations	206,143	207,509	207,531	204,971	185,595	184,331
R-squared	0.361	0.352	0.355	0.353	0.357	0.368
Year*school FE	YES	YES	YES	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.000	0.000
Dependent Variable (sd)	1.000	1.000	1.000	1.000	1.000	1.000
Long-Term Orientation (mean)	0.207	0.207	0.207	0.207	0.207	0.207
Long-Term Orientation (sd)	0.141	0.141	0.141	0.141	0.143	0.143
Long-Term Orientation (beta)	0.104	0.107	0.102	0.107	0.107	0.100
N_clust	91	91	91	91	90	90

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. The dependent variable measures students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1). All the regressions include the same individual controls described in Table 2 (coefficients not reported). Maternal controls include education dummies (high school, some college and college graduate; the excluded group is college drop-out), whether the mother was younger than 16 when she gave birth, the mother's marital status at time of birth, the number of older siblings, and the median income in the zip code of the place of residence at time of birth (measured in 1999). The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 7
Long-Term Orientation and performance in mathematics, controlling for other country of origin characteristics, FLDOE
First generation immigrants

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Math score, 3rd grade							Math score, change 3rd to 8th				
Long-Term Orientation	**0.562*** **	**0.414*** **	**0.588*** **	**0.553*** **	**0.601*** **	**0.440*** **	**0.413*** **	**0.355*** **	**0.430*** **	**0.431*** **	**0.466*** **	**0.292*** **
	(0.073)	**(0.131)**	**(0.129)**	**(0.092)**	**(0.145)**	**(0.129)**	**(0.075)**	**(0.102)**	**(0.114)**	**(0.094)**	**(0.149)**	**(0.093)**
Log GDP pc year 2000 ppp	-0.139***					-0.147***	-0.102***					-0.218***
	(0.018)					(0.038)	(0.018)					(0.034)
Distance from the US (log)		0.121**				-0.009		0.051**				-0.004
		(0.046)				(0.027)		(0.023)				(0.025)
Savings over GDP/100			-0.182			-0.240			0.181			0.064
			(0.320)			(0.155)			(0.173)			(0.117)
Education selection to Florida				0.410***		0.286***				0.213***		0.051
				(0.071)		(0.057)				(0.049)		(0.055)
Mean PISA score in Math					-0.113**	0.101					-0.053	0.167***
					(0.043)	(0.063)					(0.056)	(0.047)
Observations	69,649	69,652	69,637	69,031	54,535	54,461	28,046	28,046	28,039	27,736	22,799	22,775
R-squared	0.464	0.461	0.458	0.464	0.464	0.469	0.421	0.417	0.417	0.422	0.434	0.442
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent Variable (sd)	1.000	1.000	1.000	1.000	1.000	1.000	0.783	0.783	0.783	0.783	0.791	0.791
Long-Term Orientation (mean)	0.255	0.255	0.255	0.252	0.287	0.286	0.254	0.254	0.254	0.251	0.276	0.275
Long-Term Orientation (sd)	0.192	0.192	0.192	0.189	0.177	0.176	0.190	0.190	0.190	0.186	0.174	0.174
Long-Term Orientation (beta)	0.108	0.079	0.113	0.105	0.106	0.077	0.100	0.086	0.104	0.102	0.103	0.064
N_clust	88	89	88	76	61	53	84	84	83	73	57	52

Notes. The table reports OLS estimates, with standard errors clustered at the country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes first generation immigrants defined using both the information on the country of origin and the language spoken at home. The dependent variable measures students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1). All the regressions include the same individual controls described in Table 2 (coefficients not reported). The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. The additional country-controls and all the remaining variables are described in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 8
Long-Term Orientation and performance in mathematics, controlling for other country of origin characteristics, FLDOE
Second generation immigrants, extended definition

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Math score, 3rd grade						Math score, change 3rd to 8th					
Long-Term Orientation	**0.728*** **	**0.612*** **	**0.723*** **	**0.918*** **	**0.529*** **	**0.383** **	**0.447*** **	**0.393*** **	**0.473*** **	**0.590*** **	**0.458*** **	**0.376** **
	(0.115)	**(0.174)**	**(0.095)**	**(0.110)**	**(0.145)**	**(0.176)**	**(0.085)**	**(0.105)**	**(0.090)**	**(0.082)**	**(0.099)**	**(0.147)**
Log GDP pc year 2000 ppp	-0.079*					-0.085***	-0.080***					-0.131***
	(0.041)					(0.030)	(0.026)					(0.018)
Distance from the US (log)		0.097				-0.054		0.063***				-0.025
		(0.076)				(0.033)		(0.024)				(0.016)
Savings over GDP/100			0.714**			0.881**			0.244			0.407
			(0.324)			(0.423)			(0.211)			(0.313)
Education selection to Florida				0.045		0.285***				0.084		-0.029
				(0.123)		(0.057)				(0.055)		(0.082)
Mean PISA score in Math					0.072	0.076					0.004	0.024
					(0.051)	(0.060)					(0.037)	(0.040)
Observations	304,449	305,382	304,522	295,119	54,797	53,916	106,832	107,053	106,696	103,388	17,760	17,438
R-squared	0.344	0.343	0.342	0.343	0.484	0.488	0.312	0.311	0.310	0.314	0.479	0.485
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent Variable (sd)	1.000	1.000	1.000	1.000	1.000	1.000	0.775	0.775	0.776	0.777	0.745	0.746
Long-Term Orientation (mean)	0.208	0.209	0.208	0.199	0.339	0.331	0.210	0.211	0.210	0.201	0.353	0.344
Long-Term Orientation (sd)	0.142	0.144	0.143	0.128	0.157	0.147	0.146	0.147	0.146	0.133	0.164	0.154
Long-Term Orientation (beta)	0.103	0.088	0.103	0.118	0.083	0.056	0.084	0.074	0.089	0.101	0.101	0.078
N_clust	91	93	91	71	48	42	83	85	83	66	46	41

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. The dependent variable measures students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1). All the regressions include the same individual controls described in Table 2 (coefficients not reported). The additional country-controls are described in the online Appendix. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables on the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 9
Long-Term Orientation and educational performance, robustness to sample selection, FLDOE

PANEL A: 1st generation + 2ndplus generation (extended definition)

	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.747*** **	**0.485*** **	**0.455*** **	**0.451*** **	**0.115*** **	**-0.026*** **	**-0.170*** **	**-0.024*** **
	(0.102)	**(0.100)**	**(0.054)**	**(0.093)**	**(0.019)**	**(0.007)**	**(0.031)**	**(0.004)**
Observations	375,034	135,100	374,958	134,475	81,197	2,891,677	1,614,982	2,350,953
R-squared	0.340	0.304	0.352	0.295	0.338	0.189	0.122	0.086
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.776	0.052	0.212	0.044
Dependent Variable (sd)	1.000	0.778	1.000	0.828	0.417	0.071	0.409	0.205
Long-Term Orientation (mean)	0.218	0.220	0.218	0.220	0.224	0.219	0.221	0.218
Long-Term Orientation (sd)	0.155	0.158	0.155	0.158	0.164	0.160	0.162	0.158
Long-Term Orientation (beta)	0.116	0.098	0.070	0.086	0.045	-0.058	-0.067	-0.019
N_clust	95	90	95	90	92	97	97	97

PANEL B: 1st generation + 2ndplus generation (extended definition), exclusion of Latin America

	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.458*** **	**0.385*** **	**0.243***	**0.367*** **	**0.036** **	**-0.014**	**-0.067***	**-0.003**
	(0.169)	**(0.133)**	**(0.124)**	**(0.122)**	**(0.016)**	**(0.010)**	**(0.036)**	**(0.003)**
Observations	50,814	19,459	50,786	19,397	13,287	420,633	244,772	338,169
R-squared	0.448	0.463	0.455	0.458	0.365	0.169	0.127	0.134
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.883	0.039	0.123	0.022
Dependent Variable (sd)	1.000	0.766	1.000	0.837	0.322	0.063	0.328	0.146
Long-Term Orientation (mean)	0.518	0.518	0.518	0.518	0.513	0.517	0.517	0.516
Long-Term Orientation (sd)	0.210	0.209	0.210	0.209	0.206	0.211	0.210	0.209
Long-Term Orientation (beta)	0.096	0.105	0.051	0.092	0.023	-0.046	-0.043	-0.005
N_clust	82	77	82	77	79	84	84	84

Table 9
Long-Term Orientation and educational performance, robustness to sample selection (continued), FLDOE

PANEL C: 1st generation + 2ndplus generation (extended definition), exclusion of Asia

	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.532*** (0.103)**	**0.247*** (0.075)**	**0.385*** (0.064)**	**0.267*** (0.091)**	**0.079*** (0.020)**	**-0.012 (0.008)**	**-0.114*** (0.035)**	**-0.022*** (0.004)**
Observations	347,049	124,578	346,991	123,998	74,356	2,666,557	1,485,783	2,170,681
R-squared	0.325	0.300	0.345	0.292	0.338	0.192	0.121	0.088
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.765	0.054	0.222	0.046
Dependent Variable (sd)	1.000	0.792	1.000	0.835	0.424	0.072	0.416	0.209
Long-Term Orientation (mean)	0.194	0.195	0.194	0.195	0.197	0.194	0.195	0.194
Long-Term Orientation (sd)	0.119	0.121	0.119	0.121	0.126	0.123	0.125	0.122
Long-Term Orientation (beta)	0.063	0.038	0.046	0.039	0.024	-0.021	-0.034	-0.013
N_clust	68	63	68	63	65	70	70	70

PANEL D: 1st generation + 2ndplus generation (extended definition), inclusion of continent FE

	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.700*** (0.096)**	**0.434*** (0.081)**	**0.419*** (0.084)**	**0.433*** (0.086)**	**0.053** (0.022)**	**-0.020** (0.009)**	**-0.148*** (0.038)**	**-0.014** (0.005)**
Observations	375,034	135,100	374,958	134,475	81,197	2,891,677	1,614,982	2,350,953
R-squared	0.343	0.307	0.352	0.296	0.339	0.190	0.124	0.086
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Continent FE	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.776	0.052	0.212	0.044
Dependent Variable (sd)	1.000	0.778	1.000	0.828	0.417	0.071	0.409	0.205
Long-Term Orientation (mean)	0.218	0.220	0.218	0.220	0.224	0.219	0.221	0.218
Long-Term Orientation (sd)	0.155	0.158	0.155	0.158	0.164	0.160	0.162	0.158
Long-Term Orientation (beta)	0.108	0.088	0.065	0.083	0.021	-0.045	-0.059	-0.011
N_clust	95	90	95	90	92	97	97	97

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample pools together first generation immigrants defined using the information on both the country of origin and the language spoken at home, and second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. Panel A and Panel D include the overall sample. Panel B excludes immigrants from Central and Latin America. Panel C excludes immigrants from Asia. The dependent variables are: students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1), the change in math score from grade 3 to grade 8, reading score in grade 3 (standardized with mean 0 and variance 1), change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year), disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident, defined as serious offences often leading to suspension), and retention (an indicator for whether the student repeats the same grade at least once). All regressions include the same individual controls described in Table 2 (coefficients not reported). Panel D also includes continent fixed effects. Columns 2 and 4 also control for the math score and reading score in grade 3, respectively. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 10
Long-Term Orientation and educational performance, heterogeneity in family characteristics, FLDOE
Second Generation immigrants, extended definition

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Math score, 3rd grade						
Long-Term Orientation (LTO)	**0.891*** **	**0.699*** **	**0.637*** **	**0.696*** **	**0.752*** **	**0.666*** **	**0.818*** **
	(0.147)	**(0.124)**	**(0.171)**	**(0.124)**	**(0.211)**	**(0.106)**	**(0.202)**
Mother high school graduate*LTO	-0.173*						-0.209**
	(0.093)						(0.087)
Mother attended some college*LTO	-0.319***						-0.358***
	(0.106)						(0.093)
Mother 4yr college graduate*LTO	-0.224**						-0.268***
	(0.108)						(0.099)
Mother teen pregnancy*LTO		-0.534					-0.679**
		(0.329)					(0.341)
Mother married at time of birth*LTO			0.074				0.145*
			(0.110)				(0.081)
Number of older siblings*LTO				0.001			-0.020
				(0.025)			(0.023)
Median income in zipcode of birth (100,000 of $)*LTO					-0.113		-0.022
					(0.277)		(0.204)
Free or Reduced Priced Lunch*LTO						0.068	0.039
						(0.092)	(0.073)
Mother high school graduate	0.116***	0.083***	0.083***	0.083***	0.083***	0.083***	0.122***
	(0.028)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.027)
Mother attended some college	0.232***	0.170***	0.170***	0.170***	0.170***	0.170***	0.240***
	(0.023)	(0.019)	(0.020)	(0.020)	(0.020)	(0.019)	(0.020)
Mother 4yr college graduate	0.381***	0.337***	0.337***	0.337***	0.337***	0.338***	0.390***
	(0.021)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.017)
Mother teen pregnancy	-0.065***	0.020	-0.071***	-0.070***	-0.070***	-0.069***	0.048
	(0.023)	(0.058)	(0.024)	(0.024)	(0.024)	(0.024)	(0.057)
Mother married at time of birth	0.101***	0.102***	0.088***	0.102***	0.102***	0.102***	0.074***
	(0.007)	(0.007)	(0.019)	(0.007)	(0.007)	(0.007)	(0.014)
Number of older siblings	-0.027***	-0.028***	-0.028***	-0.028***	-0.028***	-0.028***	-0.024***
	(0.004)	(0.004)	(0.004)	(0.008)	(0.004)	(0.004)	(0.007)
Median income in zipcode of birth (100,000 of $)	0.172***	0.173***	0.172***	0.173***	0.198***	0.173***	0.177***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.062)	(0.026)	(0.048)
Free or Reduced Priced Lunch	-0.155***	-0.154***	-0.154***	-0.154***	-0.154***	-0.169***	-0.163***
	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)	(0.017)	(0.014)
Observations	184,331	184,331	184,331	184,331	184,331	184,331	184,331
R-squared	0.368	0.368	0.368	0.368	0.368	0.368	0.369
Year*school FE	YES	YES	YES	YES	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dependent Variable (sd)	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Long-Term Orientation (mean)	0.207	0.207	0.207	0.207	0.207	0.207	0.207
Long-Term Orientation (sd)	0.143	0.143	0.143	0.143	0.143	0.143	0.143
Long-Term Orientation (beta)	0.127	0.100	0.091	0.100	0.108	0.095	0.117
N_clust	90	90	90	90	90	90	90

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. See details in the text and the appendix for how the matching between languages and countries has been implemented. The dependent variable measure students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1). All the regressions include the same individual controls described in Table 2 (coefficients not reported). Maternal controls are the same as in Table 6. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 11
Long-Term Orientation and school composition,
First and second generation (extended definition) immigrants

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Math score, change 3rd to 8th	(4) Reading score, 3rd grade	(5) Reading score, change 3rd to 8th	(6) Reading score, change 3rd to 8th	(7) Graduation	(8) % Absent Days	(9) Disciplinary Incident	(10) Retention
Long-Term Orientation (LTO)	**0.662*** **	**0.478*** **	**0.522*** **	**0.378** **	**0.490*** **	**0.509*** **	**0.069*** **	**-0.025** **	**-0.108** **	**-0.006***
	(0.197)	**(0.132)**	**(0.161)**	**(0.147)**	**(0.128)**	**(0.161)**	**(0.022)**	**(0.012)**	**(0.047)**	**(0.003)**
Fraction speaking the same language (log)*LTO	0.169***		0.159**	0.070		0.133	0.023	-0.009***	-0.029**	-0.002
	(0.057)		(0.064)	(0.046)		(0.081)	(0.014)	(0.003)	(0.012)	(0.001)
Fraction speaking the same language (log)	-0.101***		-0.088***	-0.063***		-0.071*	-0.013	0.005***	0.020***	0.002**
	(0.028)		(0.031)	(0.019)		(0.037)	(0.008)	(0.002)	(0.006)	(0.001)
Fraction speaking the same language (log) in grade 3*		0.142***			0.147**					
		(0.048)			(0.061)					
Fraction speaking the same language (log) in grade 3		-0.079***			-0.093***					
		(0.024)			(0.028)					
Observations	47,992	17,945	17,945	47,963	17,876	17,876	11,369	384,139	219,673	307,507
R-squared	0.453	0.458	0.458	0.460	0.451	0.451	0.377	0.180	0.129	0.136
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.000	0.000	0.878	0.040	0.126	0.023
Dependent Variable (sd)	1.000	0.766	0.766	1.000	0.840	0.840	0.328	0.063	0.332	0.151
Long-Term Orientation (mean)	0.528	0.531	0.531	0.528	0.532	0.532	0.535	0.531	0.532	0.530
Long-Term Orientation (sd)	0.204	0.204	0.204	0.204	0.204	0.204	0.204	0.206	0.206	0.205
Long-Term Orientation (beta)	0.135	0.128	0.139	0.077	0.119	0.124	0.043	-0.082	-0.067	-0.008
N_clust	91	83	83	91	83	83	83	95	93	94

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample pools together first generation immigrants defined using the information on both the country of origin and the language spoken at home and second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. The dependent variables measure students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1), the change in math score from grade 3 to grade 8, reading score in grade 3 (standardized with mean 0 and variance 1), change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year), disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident, defined as serious offences often leading to suspension), and retention (an indicator for whether the student repeats the same grade at least once). Fraction of students speaking the same language is the ratio of students speaking a given language in a given year in a given school divided by the school population (including natives). Students speaking English, Spanish, or Haitian are not included in our regressions (but are still part of the denominator). All the regressions include the same individual controls described in Table 2 (coefficients not reported). Columns 2 and 4 also control for the math score and reading score in grade 3, respectively. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables on the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 12
Enrollment in advanced classes, school choice and participation in gifted program

VARIABLES	(1) Fraction of advanced classes	(2) Fraction of advanced classes (scientific subjects)	(3) School Letter Score (from A to F) at t-1, (pre-) kindergarten	(4) School Letter Score (from A to F) at t-1, all grades	(5) Gifted in grade 4
Long-Term Orientation	**0.081*** **	**0.032*** **	**0.377*** **	**0.328*** **	**0.095*** **
	(0.018)	**(0.007)**	**(0.126)**	**(0.109)**	**(0.017)**
Male	-0.016***	-0.002***	-0.003	-0.001	0.002
	(0.001)	(0.000)	(0.002)	(0.002)	(0.004)
Age in months	0.000	0.000***	0.007***	-0.006***	-0.003***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Free or Reduced Priced Lunch	-0.017***	-0.004***	-0.435***	-0.382***	0.025***
	(0.002)	(0.001)	(0.041)	(0.037)	(0.007)
Special education	0.010***	0.005***	0.060***	0.014	
	(0.002)	(0.001)	(0.010)	(0.016)	
Enrolled in Limited English proficiency prog	0.012***	0.007***	-0.066***	-0.095***	0.005
	(0.002)	(0.001)	(0.013)	(0.018)	(0.011)
Math score, 8th grade	0.046***	0.013***			
	(0.005)	(0.002)			
Observations	512,070	512,070	243,233	3,478,545	26,308
R-squared	0.336	0.215	0.208	0.246	0.419
Year*school FE	YES	YES	-	-	YES
District FE	-	-	YES	YES	-
Year FE	-	-	YES	YES	-
Grade FE	YES	YES	-	YES	-
Dependent Variable (mean)	0.058	0.013	4.120	4.128	0.112
Dependent Variable (sd)	0.145	0.054	0.991	1.012	0.316
Long-Term Orientation (mean)	0.222	0.222	0.217	0.220	0.276
Long-Term Orientation (sd)	0.162	0.162	0.152	0.160	0.205
Long-Term Orientation (beta)	0.090	0.096	0.058	0.052	0.062
N_clust	94	94	92	97	88

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample pools together first generation immigrants defined using the information on both the country of origin and the language spoken at home and second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. In columns (1) and (2) the sample is restricted to the students enrolled in grades 9^{th} to 12^{th} and the dependent variables are respectively the fraction of advanced classes (AP, IB, and/or AICE) taken by the student over the total number of classes taken by the student during a given academic year, the fraction of advanced classes in scientific or math subjects (AP, IB, and/or AICE) taken by the student over the total number of classes taken by the student during a given academic year. In column 3 the sample includes students enrolled the first time they enter the school system either in Kindergarten or pre-Kindergarten class and the dependent variables is the score earned by their school in year t-1. In column (4) the sample includes students in all grades and the dependent variable is the score earned by their school in year t-1. These school scores are calculated by the Florida Department of Education to measure schools' quality. In column (5) the sample includes all students who were present in the data both in grade 3^{rd} and 4^{th}, were not enrolled in a gifted program in 3rd grade, and were top performers in FCAT math and reading in third grade. The dependent variable is equal to one if the student is enrolled in a gifted program in grade 4 and equal to zero otherwise. All the regressions include the same individual controls described in Table 2. Columns 1 and 2 also control for the math score in grade 8. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables on the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 13
Educational performance and alternative measures of Long-Term Orientation, FLDOE

	PANEL A: 1st generation + 2nd generation (extended definition)							
	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Futureless Language (Chen)	**0.473*** (0.122)**	**0.327*** (0.105)**	**0.307*** (0.057)**	**0.279*** (0.092)**	**0.066*** (0.014)**	**-0.020*** (0.005)**	**-0.086*** (0.022)**	**-0.011*** (0.002)**
Observations	273,133	128,372	273,100	127,793	51,476	1,942,897	1,045,004	1,584,804
R-squared	0.345	0.302	0.360	0.295	0.344	0.202	0.126	0.093
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	-0.035	0.000	-0.021	0.000	0.771	0.054	0.217	0.044
Dependent Variable (sd)	0.983	0.774	0.972	0.826	0.420	0.071	0.412	0.206
Futureless Language (mean)	0.019	0.022	0.019	0.022	0.019	0.019	0.019	0.019
Futureless Language (sd)	0.138	0.147	0.138	0.147	0.137	0.135	0.135	0.135
Futureless Language (beta)	0.066	0.062	0.043	0.050	0.022	-0.037	-0.028	-0.007
N_clust	74	74	74	74	67	76	74	76

	PANEL B: 1st generation							
	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Futureless Language (Chen)	**0.310*** (0.045)**	**0.264*** (0.098)**	**0.130*** (0.024)**	**0.193*** (0.061)**	**0.001 (0.018)**	**-0.005* (0.003)**	**-0.042*** (0.008)**	**-0.003** (0.002)**
Observations	81,369	32,670	81,319	32,553	27,980	838,059	521,296	668,646
R-squared	0.458	0.413	0.473	0.422	0.384	0.188	0.125	0.108
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.803	0.050	0.169	0.036
Dependent Variable (sd)	1.000	0.779	1.000	0.842	0.398	0.070	0.375	0.185
Futureless Language (mean)	0.025	0.023	0.025	0.023	0.027	0.028	0.029	0.026
Futureless Language (sd)	0.156	0.151	0.156	0.150	0.161	0.164	0.167	0.159
Futureless Language (beta)	0.048	0.051	0.020	0.034	0.000	-0.012	-0.019	-0.003
N_clust	78	71	78	71	69	85	82	83

Table 13 (continued)
Educational performance and alternative measures of Long-Term Orientation, FLDOE

PANEL C: 1st generation + 2nd generation (extended definition), excluding the Americas								
	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Maximum Crop Yield (Galor	**0.042*** **	**0.030*** **	**0.025*** **	**0.031*** **	**0.004** **	**-0.002*** **	**-0.010*** **	**-0.000**
	(0.010)	**(0.008)**	**(0.008)**	**(0.008)**	**(0.002)**	**(0.001)**	**(0.002)**	**(0.000)**
Observations	45,262	17,062	45,238	17,001	11,552	373,220	216,428	298,977
R-squared	0.464	0.474	0.470	0.469	0.375	0.178	0.131	0.141
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.883	0.038	0.120	0.022
Dependent Variable (sd)	1.000	0.764	1.000	0.834	0.321	0.062	0.325	0.147
Maximum Crop Yield (mean)	8.601	8.610	8.602	8.607	8.593	8.593	8.588	8.592
Maximum Crop Yield (sd)	2.298	2.261	2.298	2.263	2.262	2.298	2.283	2.281
Maximum Crop Yield (beta)	0.097	0.089	0.058	0.085	0.029	-0.089	-0.067	-0.004
N_clust	81	76	81	76	78	83	83	83

Notes. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. In Panel A the sample pools together first generation immigrants defined using the information on both the country of origin and the language spoken at home and second generation immigrants (extended definition) defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and the appendix for how the matching between language and countries has been implemented. In Panel B the sample includes first generation immigrants defined using the information on the country of origin. Panel C is equal to the sample in Panel A with the exclusion of the immigrants from the American continent. The dependent variables measure students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1), the change in math score from grade 3 to grade 8, reading score in grade 3 (standardized with mean 0 and variance 1), change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year), disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident, defined as serious offences often leading to suspension), and retention (an indicator for whether the student repeats the same grade at least once). All the regressions include the same individual controls described in Table 2 (coefficients not reported). In Panel A and Panel B futureless language is a dummy variable equal to 1 for "futureless" languages (languages that do not require "obligatory future time reference use in prediction-based contexts") from Chen (2013). The specification in Panel B includes country of origin fixed effects. In Panel C maximum crop yield is a historical measure of crop yield constructed based on data from the Global Agro-Ecological Zones (GAEZ) project of the Food and Agriculture Organization (FAO) and taken from Galor and Ozak (2016). We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 14
Program for International Student Assessment (PISA): sample statistics

	1st generation			2nd generation (mother)			2nd generation (father)		
	Obs.	Mean	St. dev.	Obs.	Mean	St. dev.	Obs.	Mean	St. dev.
Math	27,649	0.000	1.000	45,884	0.000	1.000	45,340	0.000	1.000
Reading	27,649	0.000	1.000	45,884	0.000	1.000	45,340	0.000	1.000
Science	27,649	0.000	1.000	45,884	0.000	1.000	45,340	0.000	1.000
Retention	17,229	0.158	0.365	30,135	0.144	0.351	29,735	0.143	0.350
Truancy	7,918	0.136	0.343	13,810	0.120	0.325	13,346	0.120	0.325
Male	27,649	0.505	0.500	45,884	0.495	0.500	45,340	0.496	0.500
Age of student (in years)	27,649	15.775	0.288	45,884	15.778	0.289	45,340	15.781	0.288
Grade 7	27,649	0.034	0.181	45,884	0.018	0.132	45,340	0.017	0.130
Grade 8	27,649	0.140	0.347	45,884	0.091	0.288	45,340	0.092	0.288
Grade 9	27,649	0.376	0.484	45,884	0.423	0.494	45,340	0.419	0.493
Grade 10	27,649	0.344	0.475	45,884	0.404	0.491	45,340	0.410	0.492
Grade 11	27,649	0.102	0.302	45,884	0.062	0.242	45,340	0.059	0.236
Grade 12	27,649	0.004	0.065	45,884	0.002	0.048	45,340	0.003	0.050
Grade 13	27,649	0.000	0.006	45,884	0.000	0.000	45,340	0.000	0.000
Parents' education level: none	27,649	0.033	0.178	45,884	0.035	0.184	45,340	0.035	0.183
Parents' education level: primary	27,649	0.081	0.272	45,884	0.084	0.277	45,340	0.084	0.277
Parents' education level: lower secondary	27,649	0.157	0.364	45,884	0.186	0.389	45,340	0.187	0.390
Parents' education level: upper secondary	27,649	0.083	0.275	45,884	0.105	0.306	45,340	0.110	0.313
Parents' education level: post-secondary non-tertiary	27,649	0.200	0.400	45,884	0.231	0.421	45,340	0.229	0.420
Parents' education level: first stage of tertiary	27,649	0.128	0.334	45,884	0.137	0.343	45,340	0.139	0.346
Parents' education level: second stage of tertiary	27,649	0.319	0.466	45,884	0.223	0.416	45,340	0.216	0.412
Wealth	22,734	-0.319	1.049	39,041	-0.241	0.940	38,033	-0.233	0.934

Notes. The table reports the sample statistics of the PISA sample (waves 2003, 2006, 2009 and 2012). Math, Reading and Science scores are respectively the averages of the 5 plausible values for math, reading and science tests. Retention is a dummy variable equal to 1 if a student repeated at least one year during his/her school career (PISA waves 2003, 2009 and 2012). Truancy is a dummy variable equal to 1 if the student, when asked "In the last two full weeks of school, how many times did you skip a whole school day?" ticked one of the following answers: "one or two times", "three or four times", "five or more times"; equal to 0 if s/he ticked the answer "none" (PISA wave 2012). Male is a dummy equal to one if the student is a boy. Age is the age of the student expressed in years. Grades= 7-13 are dummy variables equal to 1 if the student is in the corresponding grade. Parents' education variables are dummy variables for different level of educations (more details in the online Appendix). Wealth is an index of family wealth possessions built by OECD – PISA based on the student's responses to several questions regarding specific items in the student's home (PISA waves 2006, 2009 and 2012). More details on these variables are contained in the online Appendix.

Table 15
Long-Term Orientation and educational outcomes, PISA
First generation immigrants

VARIABLES	(1) Math	(2) Reading	(3) Science	(4) Retention	(5) Truancy	(6) Math	(7) Reading	(8) Science	(9) Retention	(10) Truancy
Long-Term Orientation	**0.655*** **	**0.434** **	**0.616*** **	**-0.065** **	**-0.124*** **	**0.709*** **	**0.505** **	**0.676*** **	**-0.061** **	**-0.124*** **
	(0.155)	**(0.213)**	**(0.219)**	**(0.027)**	**(0.034)**	**(0.136)**	**(0.204)**	**(0.216)**	**(0.025)**	**(0.034)**
Male	0.142***	-0.343***	0.030	0.017***	0.010	0.143***	-0.349***	0.028	0.013**	0.010
	(0.011)	(0.026)	(0.019)	(0.004)	(0.009)	(0.013)	(0.026)	(0.023)	(0.006)	(0.010)
Age of student	-0.144***	-0.126***	-0.125***	0.190***	0.021	-0.163***	-0.154***	-0.155***	0.193***	0.021
	(0.036)	(0.028)	(0.031)	(0.024)	(0.015)	(0.033)	(0.030)	(0.033)	(0.028)	(0.015)
Wealth						0.048***	0.031**	0.027**	-0.000	0.004
						(0.017)	(0.014)	(0.012)	(0.004)	(0.004)
Observations	27,649	27,649	27,649	17,229	7,918	22,734	22,734	22,734	13,371	7,899
R-squared	0.371	0.341	0.341	0.314	0.080	0.380	0.344	0.348	0.337	0.081
Year FE	YES	YES	YES	YES	-	YES	YES	YES	YES	-
Grade FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Parents' education FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country of destination FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.158	0.136	0.000	0.000	0.000	0.159	0.136
Dependent Variable (sd)	1.000	1.000	1.000	0.365	0.343	1.000	1.000	1.000	0.366	0.343
Long-Term Orientation (mean)	0.590	0.590	0.590	0.570	0.561	0.591	0.591	0.591	0.566	0.561
Long-Term Orientation (sd)	0.253	0.253	0.253	0.259	0.267	0.258	0.258	0.258	0.268	0.266
Long-Term Orientation (beta)	0.166	0.110	0.156	-0.046	-0.097	0.183	0.131	0.175	-0.045	-0.097
N_clust	63	63	63	63	54	58	58	58	52	54

Notes. The table reports OLS estimates, with standard errors clustered at the country of origin level. The unit of observation is a first generation immigrant student from one of the 63 countries residing in one of the 37 countries surveyed in PISA for which information about country of origin of the respondent is available (4 waves from 2003 to 2012 depending on whether the variables used in the regression are all available – details are in the online Appendix). The dependent variables are Math, Reading, and Science scores calculated according to the description on the online appendix, retention (a dummy variable equal to 1 if a student repeated at least one year during his/her school career), and truancy (a dummy variable equal to 1 if the student skipped at least one full day of school in the previous two weeks). The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. Individual controls are: male (a dummy equal to one if the student is a boy), age (the age of the student expressed in years), dummies for student grade and for parents' education, wealth (an index of family wealth possessions built by OECD – PISA). We describe in details all the variables (and their availability in different PISA waves) in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table 16
Long-Term Orientation and educational outcomes, PISA
Second generation immigrants (maternal side)

VARIABLES	(1) Math	(2) Reading	(3) Science	(4) Retention	(5) Truancy	(6) Math	(7) Reading	(8) Science	(9) Retention	(10) Truancy
Long-Term Orientation	**0.745*** **	**0.680*** **	**0.808*** **	**-0.081*** **	**-0.081** **	**0.787*** **	**0.725*** **	**0.855*** **	**-0.080*** **	**-0.082** **
	(0.201)	**(0.193)**	**(0.206)**	**(0.024)**	**(0.036)**	**(0.195)**	**(0.192)**	**(0.203)**	**(0.023)**	**(0.035)**
Male	0.193***	-0.322***	0.079***	0.007	-0.009	0.197***	-0.323***	0.078***	0.006	-0.009
	(0.017)	(0.036)	(0.019)	(0.007)	(0.010)	(0.018)	(0.036)	(0.021)	(0.007)	(0.010)
Age of student	-0.216***	-0.196***	-0.172***	0.272***	0.030**	-0.220***	-0.200***	-0.180***	0.293***	0.030**
	(0.033)	(0.036)	(0.034)	(0.035)	(0.014)	(0.035)	(0.040)	(0.039)	(0.032)	(0.014)
Wealth						0.006	-0.008	-0.018	0.001	0.005
						(0.014)	(0.012)	(0.012)	(0.004)	(0.006)
Observations	45,884	45,884	45,884	30,135	13,810	39,041	39,041	39,041	24,292	13,775
R-squared	0.382	0.348	0.354	0.483	0.108	0.393	0.356	0.362	0.492	0.108
Year FE	YES	YES	YES	YES	-	YES	YES	YES	YES	-
Grade FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Parents' education FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country of destination FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.144	0.120	0.000	0.000	0.000	0.154	0.120
Dependent Variable (sd)	1.000	1.000	1.000	0.351	0.325	1.000	1.000	1.000	0.361	0.325
Long-Term Orientation (mean)	0.646	0.646	0.646	0.643	0.631	0.647	0.647	0.647	0.642	0.631
Long-Term Orientation (sd)	0.227	0.227	0.227	0.227	0.231	0.231	0.231	0.231	0.233	0.231
Long-Term Orientation (beta)	0.169	0.155	0.184	-0.052	-0.058	0.182	0.168	0.198	-0.052	-0.059
N_clust	60	60	60	58	56	58	58	58	53	56

Notes. The table reports OLS estimates, with standard errors clustered at the country of origin level. The unit of observation is a second generation immigrant student on the maternal side from one of the 63 countries residing in one of the 37 countries surveyed in PISA for which information about the country of origin of the parents is available (4 waves from 2003 to 2012 depending on whether the variables used in the regression are all available – details are on the online Appendix). The dependent variables are Math, Reading, Science scores calculated according to the description on the online appendix, retention (a dummy variable equal to 1 if a student repeated at least one year during his/her school career), and truancy (a dummy variable equal to 1 if the student skipped at least one full day of school in the previous two weeks). The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. Individual controls are: male (a dummy equal to one if the student is a boy), age (the age of the student expressed in years), dummies for student grade and for parents' education, wealth (an index of family wealth possessions built by OECD – PISA). We describe in details all the variables (and their availability in different PISA waves) on the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Web Appendix for

Long-Term Orientation and Educational Performance

David Figlio

Northwestern University and NBER

Paola Giuliano

UCLA and NBER

Umut Ozek

American Institutes for Research

Paola Sapienza

Northwestern University and NBER

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A1. Introduction

This appendix accompanies "Long Term Orientation and Educational Performance" by David Figlio, Paola Giuliano, Umut Ozek, and Paola Sapienza. Section A2 provides further details of the data used in the paper, as well as the definition of variables. Section A3 reports additional tables discussed in the body of the paper, but not reported there explicitly.

A2. Data and Their Sources

In this section we describe in more details of some of the variables used in the analysis. We also describe some additional technical details to understand the construction of the data and the regression analysis.

A.2.1. Long-Term Orientation

Hofstede et al. (2010) constructed the measure of Long-Term Orientation through a factor analysis of the following variables, taken from the WVS (latest data available for each country in the 1995-2004 period): 1. Thrift as a desirable trait for children (percentage of people in a country choosing "thrift" as one of the answers to the question: "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? Please choose up to five." The list included: independence, hard work, feeling of responsibility, imagination, tolerance and respect for other people, thrift (saving money and things), determination (perseverance), religious faith, unselfishness, obedience.) 2. National pride (percentage of people in a country choosing "very proud" as answer to the following question: "How proud are you to be -name of your nationality-?" Possible answers included: "very proud," "quite proud," "not very proud," "not at all proud") 3. Importance of service to others (percentage of people in each country choosing "very important" as answer to the following question: "For each of the following, indicate how important it is in your life—very important, rather important, not very important, or not at all important: family, friends, leisure time, politics, work, religion, service to others."[1] We downloaded the actual variable from the website www.geerthofstede.nl/dimension-data-matrix in the spreadsheet "Six dimensions for website.xls (version 2015 12 08)" with the addition of the data "NonOfficial VSM08 scores" for Nepal and Sri Lanka, for which we take the value corresponding to "Sri Lanka-General population." The Long-Term Orientation variable ranges from 0 to 100. In our data it was rescaled as a 0-1 variable.

[1] Because service to others had some missing values, linear regression on the two other variables was used to predict the missing factor scores.

A.2.2. Description of variables for the Florida analysis

Dependent variables		
Name of the variable	*Description*	*Source (and when possible and useful name of the raw variable)*
Math score	Development scale score in the Mathematics section of the FCAT. The scores are standardized by subtracting the mean test score in the sample used for the analysis and by dividing them by the standard deviation in the sample, for each test grade level-year combination.	Source: FLDOE Created using raw variables: DEV_SCALE_SCORE, SUBTEST_ID, TEST_GRADE_LEVEL, CURRENT_ACADEMIC_YEAR
Math score, change 3rd to 8th	Difference between the standardized math score in grade 8 and the standardized math score in grade 3. The standardization is done within each sample by subtracting the mean test score in the sample (for each grade) and by dividing them by the sample standard deviation.	Source: FLDOE Created using raw variables: DEV_SCALE_SCORE, SUBTEST_ID, TEST_GRADE_LEVEL, CURRENT_ACADEMIC_YEAR
Reading score	Development scale score in the Reading section of the FCAT. The scores are standardized by subtracting the mean test score in the sample used for the analysis and by dividing them by the standard deviation in the sample, for each test grade level-year combination.	Source: FLDOE Created using raw variables: DEV_SCALE_SCORE, SUBTEST_ID, TEST_GRADE_LEVEL, CURRENT_ACADEMIC_YEAR
Reading score, change 3rd to 8th	Difference between the standardized reading score in grade 8 and the standardized reading score in grade 3. The standardization is done within each sample by subtracting the mean test score in the sample (for each grade) and by dividing them by the sample standard deviation.	Source: FLDOE Created using raw variables: DEV_SCALE_SCORE, SUBTEST_ID, TEST_GRADE_LEVEL, CURRENT_ACADEMIC_YEAR
Graduation	Dummy variable equal to 1 if a student obtained a standard diploma within 4 years after entering grade 9 for the first time.	Source: FLDOE Created using raw variables: ENROLLMENT_YEAR, WITHDRAWAL_REASON_CD, GRADE_LVL_ID
% Absent Days	Percentage of absent days during the year calculated as a fraction of absent days over the sum of absent and present days.	Source: FLDOE Created using raw variables: ABSENT_DAYS_NBR, PRESENT_DAYS_NBR
Disciplinary Incident	Dummy variable equal to 1 if the student was involved in a disciplinary incident during the year, equal to 0 if s/he was not involved in any disciplinary incident. A disciplinary incident is a serious offense that usually results in suspension.	Source: FLDOE Created using raw variables: STUDENT_REFERRAL_ACTION_CD
Retention	Dummy variable equal to 1 in year *t* if the student attends the same grade in year *t* and in year *t+1*, and equal to 0 if the student attends a higher grade in year *t+1*.	Source: FLDOE Created using raw variables: ENROLLMENT_YEAR, GRADE_LVL_ID

Gifted in grade 4	Dummy variable equal to 1 if the student is classified as gifted in grade 4 and zero otherwise.	Source: FLDOE Created using raw variables: PRIMARY_EXCPT_IND
School letter score at year *t-1*	School letter scores are recoded into a numerical scale ranging from 1 to 5, where a letter grade of "F" corresponds to 1, "D" corresponds to 2, "C" corresponds to 3, "B" corresponds to 4, "A" corresponds to 5. We assign to each school the score it earned in year *t-1*, that is the year before the student attends the school. Source: http://schoolgrades.fldoe.org (we took the information from the 2013-2014 School Grades spreadsheet)	Source: FLDOE Created using raw variables: School grade variable in the 2013-14 school grades spreadsheet.
Fraction of advanced classes	Number of IB, AICE or AP classes taken during the academic year over the total number of classes taken. Advanced classes are identified using FLDOE's course code directory for each school year (http://www.fldoe.org/policy/articulation/ccd).	Source: FLDOE Created using raw variables: COURSE_NUMBER
Fraction of advanced classes (scientific subjects)	Number of IB, AICE or AP classes taken during the academic year in Math, Computer Science, or Natural Sciences over the total number of classes taken. More specifically, "Scientific advanced classes" are all those classes whose course numbers are between 200000-300000 (Computer Science), 1200000-1300000 (Mathematics) or 2000000-2100000 (Sciences: Biology, Environmental Sciences, Chemistry, Physics and Design Technology). Source: http://www.fldoe.org/policy/articulation/ccd/archive/2005-2006-course-directory.stml	Source: FLDOE Created using raw variables: COURSE_NUMBER
Individual controls		
Name of the variable	*Description*	*Source*
Age in months	Assuming the school year starts on Sep 1st, the variable is calculated as: Academic year*12+8-Student year of birth*12-student month of birth.	Source: FLDOE Created using raw variables: STUDENT_BIRTH_MONTH, STUDENT_BIRTH_YEAR, ENROLLMENT_YEAR
Male	A dummy for whether the student is a boy.	Source: FLDOE Created using raw variables: GENDER_CD
Free or Reduced Priced Lunch	A dummy equal to 1 if the student/year is eligible for free lunch, reduced-price lunch or attends a "provision 2" school and zero otherwise (either the student did not apply or he/she applied but she/he was not eligible).	Source: FLDOE Created using raw variables: LUNCH_STATUS
Enrolled in Limited English proficiency program	A dummy variable equal to 1 if the student is enrolled in a limited English proficiency program and zero otherwise.	Source: FLDOE Created using raw variables: LIMITED_ENGLISH_PROFIENC

		Y_CD
Special Education	A dummy variable equal to 1 if the variable if the student has special education needs and zero otherwise. Gifted students are classified as zero.	Source: FLDOE Created using raw variables: PRIMARY_EXCPT_IND
Mother's educational dummies	We define three dummies for the maternal level of education: high school graduate (years of education is equal to 12), some college (years of education greater than 12 and strictly smaller than 16) and college graduate (years of education greater or equal than 16). The mother's years of education variable is taken from the birth certificates.	Source: birth certificate
Mother teen pregnancy	A dummy equal to 1 if mother's age at time of birth is smaller or equal than 16 years, equal to 0 if it is greater than 16 years. Mother's age at time of birth is constructed starting from mother's month and year of birth (both provided in the birth certificate) and children's month and year of birth (provided by FLDOE). Mother's age is set to missing if it is less than 12 or greater than 50. This variable is obtained from the birth certificates.	Source: birth certificate
Mother married at time of birth	A dummy variable equal to 1 if the mother is married at time of giving birth.	Source: birth certificate
Number of older siblings	The number of older siblings. This variable is obtained from the birth certificates.	Source: birth certificate
Median income in zip code of birth, (100,000 of $)	We match the zip code at time of birth (provided by the birth certificates) with zip code income in 1999, obtained from the Census bureau.	Source: birth certificate and Census
Fraction speaking the same language (log)	Number of students who speak the same language of the student over total number of students in the school she/he attends, in the given year, multiplied by 100, of which we then computed the logarithm.	Source: FLDOE Created using raw variables: LANGUAGE_HAVE_PARENTS_SPEAKING, INSTITUTION_ID, ENROLLMENT_YEAR
Continent dummies	In Table 9 we pooled together first and extended version of second generation immigrants and test the robustness of the results to the exclusion of the Latin American continent and the Asian continent. Since we merge immigrants using both a definition based on the country of origin and definition based on the language, the continent dummy needs to combine both elements. For first generation the dummy is equal to one if the country belongs to a given continent. As for language, we adopted the following rule: a language is assigned to a given continent if among the sample of 1st generation migrants who speak that language (and from which we built the weights), at least 50% come from that specific continent. For instance, in the case of Portuguese, if among the first generation migrants 60% of the Portuguese speakers come from Brazil and 40% come from Portugal, the language-level	Source: FLDOE Created using raw variables: LANGUAGE_HAVE_PARENTS_SPEAKING COUNTRY_CD_BORNED_IN

	continent dummy assigned to Portuguese will be "Americas". Note that we define "Latin America" as all countries located in the Americas with the exclusion of Canada and the US.	
Country controls		
Name of the variable	*Description*	*Source*
Distance from the US (log)	Log (distance in km) between the most populated city in the country of origin of the immigrant and the most populated city in the United States. For Serbia and Montenegro, we use the value assigned to "Yugoslavia."	Source: http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=6
Log GDP pc year 2000, ppp	Log per capita GDP (PPP converted relative to the United States, G-K method, at current prices) for the year 2000. We take the logarithm of this value+1.	Source: http://www.rug.nl/research/ggdc/data/pwt/pwt-7.0
Mean PISA score in Math	Mean score in Mathematics (weighted average using population weights of the individual values, calculated as averages of the 5 Plausible Values provided in the dataset). Average across all available years (2003 to 2012) for the given country.	Source: https://www.oecd.org/pisa/
Education selection to Florida	Calculated as the net difference index used by Feliciano (2005) and proposed by Lieberson (1976). It is a comparative measure of immigrants' and non-immigrants' educational attainment (adjusted for age) along several points of the education distribution (no schooling; primary education; secondary education; tertiary education). For the exact formula see Feliciano (2005). Educational attainment of the migrants is obtained from the Census 2000, looking at 1st generation migrants aged 25 years old or older, who live in Florida, and who migrated to the US at an age equal or higher than 18 years old The educational attainment from the country of origin is taken from Barro-Lee ("Educational Attainment Data For The Population Aged 25 Years And Older) and it is augmented with data for Puerto Rico obtained from UNESCO for year 2012.	Sources: www.ipums.org, http://data.uis.unesco.org; http://www.barrolee.com
Savings over GDP/100	Savings rate/GDP for the year 2000.	Source: http://data.worldbank.org/indicator/NY.GDS.TOTL.ZS
Maximum Crop Yield (Galor)	A historical measure of crop yield constructed based on data from the Global Agro-Ecological Zones (GAEZ) project of the Food and Agriculture Organization (FAO). The measure is constructed under low level of inputs and rain-fed agriculture. For details see Galor et Ozak (2016).	Source: http://ozak.github.io/Caloric-Suitability-Index/ Created using the variable: post1500maximumcalories0mean_aa divided by 1,000

Futureless Language (Chen)	Dummy variable equal to 1 for "futureless" languages (languages that do not require "obligatory use in prediction-based contexts"). We recoded Chen (2013) accordingly.	Source: http://www.anderson.ucla.edu/faculty/keith.chen/datafilm.htm. Created using the raw variable: prediction_ftr

A.2.3 Description of the samples in Florida Analysis and other technical details

Sample of first generation immigrants. In our regressions we use two samples of first generation immigrants. For the first sample, we define this group using the country of origin of the children. For the second sample, we define this group using the country of origin of the children and also impose the additional restriction that they speak at home one of the main languages spoken in their country of birth (the list of the main languages spoken in a country is taken from the 17th version of the Ethnologue.)

Sample of second generation immigrants: We use two samples of second generation immigrants. The first one includes US born children whose mothers were born abroad. In the birth certificates of children born in Florida it is indicated whether the mother is born in the US or abroad. For a subset of countries or territories (Canada, Cuba, Guam, Mexico, Puerto Rico, US, and Virgin Islands) the place of birth of the mother is also indicated.[2] For all the other foreign born mothers we know the mother was born abroad but do not have a country of birth. To construct the sample of second generation immigrants we use the information on the country of origin of the mother when available (Mexico, Puerto Rico and Canada) or the language spoken at home for individuals whose mother was born abroad but we do not have a country of origin. As we have birth certificates only for children born in Florida and the maternal place of birth is listed in the birth certificates, this group includes only children born in Florida. The second sample includes the group defined above along with all children born in the US (including children born outside Florida) and who speak a language different than English at home.[3] We refer to the former sample as "2nd generation", and to the latter as "2nd generation, extended definition".

Matching languages and countries. For some students to identify the country of origin we use the language spoken at home. To create a match between languages and countries of origin we

[2] We use the information of the foreign countries or territories only for mothers born in Canada, Mexico, and Puerto Rico for which we have the Long Term Orientation variable. We drop all the students whose mothers are born in Cuba, Guam, and Virgin Islands and speak a language associated with these countries.
[3] This second sample of extended generation students can be second generation immigrants on the mother side if they are born outside Florida or on the father side, or they can be third generation immigrants.

proceed as follows. For most languages there is a one to one association between language and country of origin. For languages spoken in multiple countries (for example Portuguese) we calculate the Long-Term Orientation cultural variable as a weighted average of the Long-Term Orientation of all the countries in which Portuguese is the main language spoken in the country. We use as weights the fraction of first generation immigrants in our sample speaking that language and born in a country where the language is indeed one of the spoken languages.

Construction of the clusters for standard errors. In all the regression we cluster the standard errors to account for correlation within the country of origin/language depending on whether we attribute the Hofstede variable using country of origin or language of origin. When we pool together first and second generation in the same regression to create parsimonious clusters and to avoid creating a separate cluster country and language (for example "China" and "Chinese") we use the following methodology. Whenever at least 60% of the 1st generation speakers of a given language come from one specific country, we attribute that language to the cluster dimension corresponding to that country. This happens in all cases but for Arabic, Croatian, French, and Spanish (when we are not able to identify the country of origin to the mother). In these cases, since it would be hard to map the language to a unique country of origin, we treat these languages as having their own cluster.

A.2.2. Description of variables for the Program for International Student Assessment

In reporting the test score in mathematics, reading and science, PISA assigns a probability distribution to each possible response pattern in each test to describe the ability associated with that pattern. From this distribution, PISA draws a set of five values associated with each student. These values are called plausible values because they represent alternative estimates of the student ability that could have been obtained. In our specification, we report the regressions for the average of the plausible values. We cluster the standard errors by country of origin. We also test the robustness of our results to the procedure recommended by the OECD, where we estimate one regression for each set of plausible values and report the arithmetic average of these estimates. For this procedure, we also apply the Fay's Balanced Repeated Replicated methodology, which estimates the standard errors taking into account PISA's stratified, two-stage sample design.[4]

[4] PISA's stratification consists in selecting randomly the school in the first stage. In the second stage, students in each school are randomly assigned to carry out the test in all three subjects.

Dependent variables		
Name of the variable	*Description*	*Source*
Math score	Average of the 5 plausible values for Math. This variable is present in the 2003, 2006, 2009, and 2012 PISA waves.	Created using variables PVMATH1 through PVMATH5
Reading score	Average of the 5 plausible values for Reading. This variable is present in the 2003, 2006, 2009, and 2012 PISA waves.	Created using variables PVREAD1 through PVREAD5
Science score	Average of the 5 plausible values for Science. This variable is present in the 2003, 2006, 2009, and 2012 PISA waves.	Created using variables PVSCIE1 through PVSCIE5
Retention	A dummy variable equal to 1 if a student repeated at least one year during his/her school career. This variable is present in the 2003, 2009, and 2012 PISA waves.	It is calculated starting from questions ST22Q01, ST22Q02 and ST22Q03 in wave 2003, questions ST07Q01, ST07Q02, ST07Q03 in wave 2009, questions ST07Q01, ST07Q02, ST07Q03 in wave 2012
Truancy	A dummy variable equal to 1 if the student, when asked "In the last two full weeks of school, how many times did you skip a whole school day?" ticked one of the following answers: "one or two times", "three or four times", "five or more times"; equal to 0 if s/he ticked the answer "none". This variable is present only in the 2012 PISA wave.	Calculated using variable ST09, present only in wave 2012.
Individual controls		
Name of the variable	*Description*	*Source*
Male	A variable equal to one if the student is a boy	Calculated using variable ST03Q01 in wave 2003 and variable ST04Q01 in wave 2006, 2009, 2012.
Age	Age expressed in years.	Corresponds to the variable AGE
Grade	School grade	Corresponds to the variable ST01Q01
Parents' education	The variable takes values which correspond to the following education levels: none; primary education (ISCED 1); lower secondary education (ISCED 2); upper secondary education (ISCED 3B, C); post-secondary non-tertiary education (ISCED 3A, 4); first stage of tertiary education (ISCED 5B); second stage of tertiary education (ISCED 5A, 6). In all the regressions which control for this set of	Constructed using the variable HISCED

	variables "none" is the omitted category.	
Wealth	*Wealth* is an index of family wealth possessions built by OECD – PISA based on the student's responses to several questions asking whether there are specific items in the student's home. Such items vary across waves, and some of them are specific of the country where the test is administered. This variable is present in the 2006, 2009, and 2012 PISA waves. For details see: https://www.oecd.org/pisa/.	Corresponds to the variable WEALTH

A.3. Additional Tables

Table A1
List of countries, first generation immigrants, unrestricted and restricted sample

COUNTRY	1st generation, no language restriction	1st generation, language restriction	COUNTRY	1st generation, no language restriction	1st generation, language restriction
Albania	388	339	Korea, Republic of	639	388
Argentina	3,754	3,631	Lithuania	91	81
Australia	172	151	Malaysia	71	52
Austria	70		Mexico	15,750	15,133
Bangladesh	342	271	Morocco	132	117
Belgium	115	33	Nepal	40	
Bosnia and Herzegovina	369	327	Netherlands	154	66
Brazil	3,028	2,511	New Zealand	45	34
Bulgaria	182	114	Nigeria	204	179
Canada	2,312	1,782	Norway	59	
Chile	786	721	Pakistan	495	477
China	1,421	492	Peru	3,368	3,197
Colombia	10,387	9,856	Philippines	1,697	1,603
Croatia	71	55	Poland	188	134
Czech Republic	35		Portugal	99	47
Denmark	40		Puerto Rico	7,640	7,610
Dominican Republic	2,342	2,329	Romania	287	154
Egypt	246	190	Russia	1,250	469
El Salvador	1,017	960	Saudi Arabia	302	69
Estonia	30		Singapore	69	53
Finland	69	49	South Africa	288	254
France	503	381	Spain	687	482
Germany	2,657	512	Sri Lanka	38	35
Ghana	52	46	Sweden	161	88
Greece	220	72	Switzerland	86	30
Hong Kong	48	38	Taiwan	75	47
Hungary	141	85	Tanzania, United Rep. of	37	
Iceland	77		Thailand	240	144
India	1,380	1,322	Trinidad and Tobago	513	508
Indonesia	69	35	Turkey	196	114
Iran	111	76	Ukraine	612	321
Iraq	56	51	United Kingdom	2,366	2,103
Ireland	76	67	Uruguay	1,120	1,084
Israel	514	481	Venezuela	6,453	6,071
Italy	656	178	Vietnam	773	659
Japan	1,562	223	Zimbabwe	44	39
Jordan	144	121	Non-disclosed countries	275	318
			Total	81,986	69,659

Notes. The table reports the number of observations by country of origin for both the unrestricted and restricted definition of first generation immigrants. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. To identify unrestricted first generation immigrants we use only the information on the country of origin of the student. We also use a restricted definition of first generation immigrant when we restrict our analysis to those students who speak at home one of the languages spoken in their country of origin (we eliminate first generation immigrants who do not speak at home one the languages of their country of origin). The total in column 1 refers to the sample used to run the regression shown in Table 2, column (2). The total in column 2 refers to the sample used to run the regression shown in Table 2, column (5). For confidentiality reasons with the FLDOE, we cannot report the number of observations for groups whose size is smaller than 30. We refer to the sum of all of them, as Non-disclosed countries. See the text of this Appendix for details.

Table A2
List of languages, second generation immigrants, restricted and extended definition

LANGUAGE (or MATERNAL COUNTRY OF BIRTH)	2nd generation	2nd generation, extended definition	LANGUAGE (or MATERNAL COUNTRY OF BIRTH)	2nd generation	2nd generation, extended definition
Afrikaans		59	Korean	428	784
Akan		43	Lao	304	497
Albanian	208	426	Lithuanian		57
Amharic	50	79	Malay	88	152
Arabic	1,878	3,205	Malayalam	127	265
Armenian	36	68	Marathi		49
Bengali	412	624	Mexico (country)	34,556	34,556
Bulgarian	43	70	Nepali		50
Chinese	1,830	3,153	Norwegian		52
Croatian	50	83	Panjabi	41	72
Czech	78	116	Persian, Iranian	232	372
Canada (country)	3,769	3,769	Polish	349	690
Danish		45	Portuguese	2,294	3,965
Dutch	143	224	Puerto Rico (country)	13,391	13,391
Estonian, Standard	69	105	Romanian	191	304
Finnish	46	96	Russian	528	1,134
French	1,668	2,858	Serbian	314	507
German	369	752	Slovak	37	63
Greek	180	658	Spanish	65,294	187,672
Gujarati	401	801	Swahili		30
Haitian	24,527	30,914	Swedish	97	154
Hausa	57	77	Tagalog	928	1,714
Hebrew	302	643	Tamil	91	189
Hindi	368	676	Telugu	163	331
Hmong		131	Thai	202	303
Hungarian	118	208	Turkish	122	236
Italian	210	684	Ukrainian	44	114
Japanese	178	340	Urdu	854	1,339
Kanjobal		90	Vietnamese	2,500	4,442
Kannada		46	Yoruba	62	116
Khmer	213	461	Not-disclosed languages	323	278
				160,763	305,382

Notes. The table reports the number of observations by language spoken at home. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. To identify "2nd generation" immigrants we include all children born in Florida whose mothers were born abroad. If the country of origin of the mothers is indicated in the birth certificate (Canada, Mexico, Puerto Rico) we attribute the corresponding country to the student. If the birth certificate indicates only that the mother was born abroad, we use the language spoken at home to attribute the Long Term Orientation variable. To identify "2nd generation, extended definition" immigrants we consider in addition to the "2nd generation" immigrants every other student who speaks a language different from English at home. We match the language with the LTO variable according to the procedure explained in this Appendix. For confidentiality reasons with the FLDOE, we cannot report the number of observations for groups whose size is smaller than 30. We refer to the sum of all of them, as Non-disclosed languages.

Table A3
Descriptive statistics of students attending public and private schools in Florida, Natives, First and Second Generation Immigrants

Panel A: Enrollment in Public School						
	Natives		1st generation		2nd generation	
	Obs.	Mean	Obs.	Mean	Obs.	Mean
Census 2000 (5%)						
Kindergarten	6,415	82.29%	646	84.83%	2,582	81.14%
Grade 1 to 4	26,500	86.69%	3,279	93.44%	9,438	86.76%
Grade 5 to 8	26,581	87.86%	4,477	93.52%	8,244	87.58%
Grade 9 to 12	21,813	90.58%	5,289	93.67%	6,576	87.61%
Overall sample	81,309	87.77%	13,691	93.15%	26,840	86.68%
Census 2010 (1%)						
Kindergarten	1,147	82.65%	91	74.73%	632	83.23%
Grade 1 to 4	4,556	85.45%	557	89.77%	2,301	88.57%
Grade 5 to 8	5,047	85.56%	855	90.64%	2,036	87.18%
Grade 9 to 12	4,726	87.85%	1,114	92.91%	1,861	88.07%
Overall sample	15,476	86.01%	2,617	90.87%	6,830	87.53%

Panel B: Family Income (USD)						
	Natives		1st generation		2nd generation	
	Obs.	Mean	Obs.	Mean	Obs.	Mean
Census 2000 (5%)						
Public school	71,364	55,838	12,648	43,526	23,264	52,842
Private school	9,945	102,409	928	86,163	3,576	106,669
Overall sample	81,309	61,534	13,576	46,441	26,840	60,014
Census 2010 (1%)						
Public school	13,311	71,906	2,372	54,343	5,978	65,630
Private school	2,165	123,921	238	115,190	852	136,119
Overall sample	15,476	79,183	2,610	59,892	6,830	74,423

Notes. The table reports the fraction of students by grade and family income enrolled in public and private schools in Florida. The data are based on Census 2000 and 2010 and report the statistics for natives, first generation immigrants and second generation immigrants. "2nd generation" is identified as having at least the mother or the father born abroad.

Table A4
Long-Term Orientation and maternal characteristics, extended second generation

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.697*** **	**0.449*** **	**0.452*** **	**0.377*** **	**0.024**	**-0.020** **	**-0.139*** **	**-0.016*** **
	(0.124)	**(0.117)**	**(0.071)**	**(0.101)**	**(0.014)**	**(0.008)**	**(0.036)**	**(0.003)**
Mother high school graduate	0.083***	0.022**	0.089***	0.032*	0.013	-0.001	-0.021**	-0.009***
	(0.020)	(0.010)	(0.019)	(0.018)	(0.008)	(0.001)	(0.009)	(0.002)
Mother attended some college	0.170***	0.052***	0.177***	0.067***	0.018	-0.001	-0.028***	-0.013***
	(0.020)	(0.015)	(0.014)	(0.015)	(0.018)	(0.002)	(0.009)	(0.002)
Mother 4yr college graduate	0.337***	0.153***	0.317***	0.175***	0.049***	-0.006**	-0.051***	-0.016***
	(0.015)	(0.008)	(0.011)	(0.016)	(0.010)	(0.002)	(0.010)	(0.002)
Mother teen pregnancy	-0.070***	0.003	-0.019	-0.053	0.042	0.012***	0.049***	0.005
	(0.024)	(0.036)	(0.027)	(0.049)	(0.031)	(0.002)	(0.010)	(0.003)
Mother married at time of birth	0.102***	0.056***	0.084***	0.048***	0.037***	-0.007***	-0.058***	-0.008***
	(0.007)	(0.005)	(0.005)	(0.008)	(0.008)	(0.000)	(0.005)	(0.001)
Number of older siblings	-0.028***	-0.012***	-0.039***	-0.008	-0.005***	0.003***	0.021***	0.003***
	(0.004)	(0.003)	(0.006)	(0.005)	(0.001)	(0.001)	(0.001)	(0.001)
Median income in zipcode of birth (100,000 of $)	0.173***	0.002	0.143***	0.044**	0.064***	0.004	-0.039**	-0.011***
	(0.026)	(0.032)	(0.013)	(0.018)	(0.019)	(0.003)	(0.017)	(0.002)
Male	0.128***	-0.047***	-0.067***	-0.067***	-0.042***	0.000	0.096***	0.013***
	(0.020)	(0.008)	(0.017)	(0.008)	(0.007)	(0.000)	(0.005)	(0.002)
Age in months	-0.010***	-0.016***	-0.012***	-0.011***	0.001	0.001***	0.007***	-0.001***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.000)	(0.000)	(0.000)
Free or Reduced Priced Lunch	-0.154***	-0.035***	-0.163***	-0.064***	-0.018**	0.000	0.037***	0.006***
	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	(0.002)	(0.003)	(0.000)
Special education	-0.658***	-0.233***	-0.753***	-0.187***	-0.173***	0.006***	0.017***	0.037***
	(0.022)	(0.006)	(0.024)	(0.008)	(0.012)	(0.000)	(0.002)	(0.001)
Enrolled in Limited English proficiency program	-0.612***		-0.689***		-0.204**	0.002**	0.046***	0.070***
	(0.005)		(0.011)		(0.080)	(0.001)	(0.005)	(0.003)
Enrolled in Limited English proficiency program in grade 3		-0.005		-0.114***				
		(0.015)		(0.012)				
Math score in grade 3		-0.368***						
		(0.008)						
Reading score in grade 3				-0.417***				
				(0.006)				
Observations	184,331	62,005	184,309	61,668	6,623	960,054	425,110	762,581
R-squared	0.368	0.334	0.379	0.319	0.324	0.182	0.150	0.121
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.874	0.045	0.208	0.042
Dependent Variable (sd)	1.000	0.778	1.000	0.809	0.332	0.057	0.406	0.200
Long-Term Orientation (mean)	0.207	0.209	0.207	0.210	0.214	0.206	0.206	0.206
Long-Term Orientation (sd)	0.143	0.149	0.143	0.149	0.158	0.144	0.146	0.144
Long-Term Orientation (beta)	0.100	0.086	0.065	0.070	0.011	-0.049	-0.050	-0.011
N_clust	90	79	90	79	58	90	82	90

Notes. The table replicates the results in Table 6 for the following dependent variables: students' Florida Comprehensive Assessment Test reading score in grade 3 (standardized with mean 0 and variance 1), the change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year) and retention (an indicator for whether the student repeats the same grade at least once) measured in grades 3-12, and disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident defined as serious offences often leading to suspension) measured in grades 6-12.. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes the extended version of second generation immigrants defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico), or the language spoken at home for the remaining students for which the country of origin of the mother is not available. See details in the text and this Appendix for how the matching between languages and countries has been implemented. Individual controls are: age in months, a male dummy, an indicator variable for free or reduced free lunch eligibility, a dummy indicating if the student is enrolled in a limited English proficiency program and indicator for special education needs. Maternal controls include education dummies (high school, some college and college graduate; the excluded group is college drop-out), whether the mother was younger than 16 when she gave birth, the mother's marital status at the time of birth, the number of older siblings, and the median income in the zip code of the place of residence at the time of birth (measured in 1999). The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in this Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A5
Educational outcomes and long term orientation, robustness to country controls, first generation immigrants

PANEL A

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to	(3) Reading score, 3rd	(4) Reading score, change 3rd to	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.515*** **	**0.442*** **	**0.251*** **	**0.408*** **	**0.086*** **	**-0.028*** **	**-0.109*** **	**-0.017*** **
	(0.079)	**(0.066)**	**(0.058)**	**(0.054)**	**(0.025)**	**(0.005)**	**(0.018)**	**(0.004)**
Log GDP pc year 2000 ppp	-0.095***	-0.117***	-0.030*	-0.120***	-0.002	0.010***	0.027***	0.001
	(0.020)	(0.023)	(0.016)	(0.021)	(0.006)	(0.002)	(0.004)	(0.001)
Distance from the US (log)	0.027	-0.014	0.001	-0.041**	-0.004	0.004**	-0.005	0.001
	(0.047)	(0.022)	(0.036)	(0.019)	(0.011)	(0.002)	(0.009)	(0.002)
Savings over GDP/100	0.072	0.301**	-0.113	0.208*	0.014	0.003	-0.059*	0.002
	(0.217)	(0.149)	(0.158)	(0.124)	(0.059)	(0.008)	(0.033)	(0.008)
Education selection to Florida	0.213***	0.031	0.269***	0.163***	0.132***	0.004	-0.010	-0.027***
	(0.079)	(0.051)	(0.060)	(0.060)	(0.027)	(0.005)	(0.013)	(0.005)
Observations	69,028	27,736	68,976	27,623	23,801	718,016	446,741	573,480
R-squared	0.466	0.425	0.477	0.434	0.387	0.191	0.126	0.115
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.790	0.051	0.172	0.038
Dependent Variable (sd)	1.000	0.783	1.000	0.843	0.407	0.070	0.378	0.190
Long-Term Orientation (mean)	0.252	0.251	0.252	0.251	0.259	0.255	0.257	0.253
Long-Term Orientation (sd)	0.189	0.186	0.189	0.186	0.200	0.198	0.200	0.195
Long-Term Orientation (beta)	0.098	0.105	0.047	0.090	0.042	-0.080	-0.058	-0.017
N_clust	75	73	75	73	75	75	75	75

PANEL B

VARIABLES	(1) Math score,	(2) Math score,	(3) Reading	(4) Reading score,	(5) Graduation	(6) % Absent	(7) Disciplinary	(8) Retention
Long-Term Orientation	**0.440*** **	**0.292*** **	**0.293*** **	**0.281*** **	**0.028**	**-0.011**	**-0.076*** **	**-0.016***
	(0.129)	**(0.093)**	**(0.100)**	**(0.080)**	**(0.034)**	**(0.008)**	**(0.027)**	**(0.009)**
Log GDP pc year 2000 ppp	-0.147***	-0.218***	-0.048	-0.196***	-0.023**	0.011***	0.033***	0.002
	(0.038)	(0.034)	(0.030)	(0.024)	(0.009)	(0.001)	(0.004)	(0.002)
Distance from the US (log)	-0.009	-0.004	-0.043*	-0.041***	-0.008	0.001	-0.003	0.003**
	(0.027)	(0.025)	(0.023)	(0.013)	(0.006)	(0.001)	(0.006)	(0.001)
Savings over GDP/100	-0.240	0.064	-0.323***	0.011	-0.130***	-0.005	-0.038	0.013
	(0.155)	(0.117)	(0.112)	(0.120)	(0.041)	(0.007)	(0.039)	(0.008)
Education selection to Florida	0.286***	0.051	0.357***	0.202***	0.159***	0.005	-0.026*	-0.030***
	(0.057)	(0.055)	(0.041)	(0.065)	(0.019)	(0.003)	(0.013)	(0.005)
Mean PISA score in Math	0.101	0.167***	0.033	0.146***	0.053***	-0.009***	-0.026***	-0.003
	(0.063)	(0.047)	(0.052)	(0.035)	(0.013)	(0.002)	(0.010)	(0.004)
Observations	54,461	22,775	54,439	22,672	18,399	553,225	342,551	445,604
R-squared	0.469	0.442	0.485	0.448	0.393	0.195	0.125	0.128
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.808	0.049	0.164	0.035
Dependent Variable (sd)	1.000	0.791	1.000	0.847	0.394	0.069	0.370	0.184
Long-Term Orientation (mean)	0.286	0.275	0.286	0.275	0.294	0.293	0.295	0.289
Long-Term Orientation (sd)	0.176	0.174	0.176	0.174	0.191	0.187	0.190	0.183
Long-Term Orientation (beta)	0.077	0.064	0.052	0.058	0.014	-0.031	-0.039	-0.016
N_clust	53	52	53	52	53	53	53	53

Notes. The table replicates the results in Table 7 for first generation immigrants, defined using the information on the country of origin and the language spoken at home. The table reports OLS estimates, with standard errors clustered at the country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The dependent variables are: students' Florida Comprehensive Assessment Test reading score in grade 3 (standardized with mean 0 and variance 1), the change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year) and retention (an indicator for whether the student repeats the same grade at least once) measured in grades 3-12, and disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident defined as serious offences often leading to suspension) measured in grades 6-12. The regressions also include the same individual controls reported in Table A4 (coefficients not reported). The additional country-controls are described in this Appendix. Panel B specification includes in addition to the standard country controls, also a control for the mean PISA score in Math in the country of origin. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables on this Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A6
Educational outcomes and long term orientation, robustness to country controls, second generation immigrants, extended definition

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to	(3) Reading score, 3rd	(4) Reading score, change 3rd to	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.688*** **	**0.454*** **	**0.502*** **	**0.405*** **	**0.136*** **	**-0.042** **	**-0.119** **	**-0.022*** **
	(0.113)	**(0.069)**	**(0.089)**	**(0.063)**	**(0.038)**	**(0.016)**	**(0.048)**	**(0.006)**
Log GDP pc year 2000 ppp	-0.100***	-0.111***	-0.022	-0.095***	-0.006	0.012***	0.027***	0.001
	(0.025)	(0.016)	(0.019)	(0.013)	(0.010)	(0.003)	(0.009)	(0.001)
Distance from the US (log)	-0.003	-0.032*	-0.025	-0.021	-0.012	0.011*	-0.026	-0.001
	(0.061)	(0.017)	(0.048)	(0.015)	(0.010)	(0.006)	(0.025)	(0.003)
Savings over GDP/100	1.527***	0.938***	0.822***	0.636***	0.031	0.045	-0.435***	-0.022
	(0.324)	(0.240)	(0.248)	(0.212)	(0.135)	(0.061)	(0.163)	(0.017)
Education selection to Florida	0.066	0.032	0.182**	0.047	0.050**	0.007	0.045	-0.009*
	(0.131)	(0.049)	(0.080)	(0.036)	(0.023)	(0.011)	(0.062)	(0.005)
Observations	295,119	103,388	295,103	102,892	55,274	2,095,753	1,126,026	1,714,203
R-squared	0.345	0.315	0.354	0.296	0.344	0.210	0.132	0.095
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.766	0.053	0.229	0.047
Dependent Variable (sd)	1.000	0.777	1.000	0.815	0.423	0.071	0.420	0.211
Long-Term Orientation (mean)	0.199	0.201	0.199	0.201	0.198	0.197	0.196	0.197
Long-Term Orientation (sd)	0.128	0.133	0.128	0.133	0.129	0.127	0.126	0.127
Long-Term Orientation (beta)	0.088	0.078	0.064	0.066	0.041	-0.075	-0.036	-0.013
N_clust	71	66	71	66	65	73	70	72

PANEL B

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.383** **	**0.376** **	**0.290** **	**0.469*** **	**0.072**	**-0.015** **	**-0.020**	**-0.005**
	(0.176)	**(0.147)**	**(0.139)**	**(0.119)**	**(0.055)**	**(0.007)**	**(0.026)**	**(0.005)**
Log GDP pc year 2000 ppp	-0.085***	-0.131***	-0.004	-0.115***	0.001	0.009***	0.023***	0.000
	(0.030)	(0.018)	(0.018)	(0.021)	(0.010)	(0.001)	(0.004)	(0.001)
Distance from the US (log)	-0.054	-0.025	-0.067***	-0.021	-0.001	0.001	-0.004	-0.000
	(0.033)	(0.016)	(0.023)	(0.021)	(0.010)	(0.001)	(0.005)	(0.001)
Savings over GDP/100	0.881**	0.407	0.338	-0.165	0.114	-0.084***	-0.382***	-0.001
	(0.423)	(0.313)	(0.341)	(0.312)	(0.125)	(0.015)	(0.071)	(0.012)
Education selection to Florida	0.285***	-0.029	0.401***	-0.070	0.053**	0.011***	-0.031***	-0.020***
	(0.057)	(0.082)	(0.043)	(0.058)	(0.026)	(0.002)	(0.010)	(0.003)
Mean PISA score in Math	0.076	0.024	0.062	-0.003	0.026*	-0.000	-0.012	-0.005***
	(0.060)	(0.040)	(0.040)	(0.038)	(0.014)	(0.001)	(0.007)	(0.001)
Observations	53,916	17,438	53,911	17,420	7,620	329,514	164,259	267,566
R-squared	0.488	0.485	0.513	0.473	0.431	0.248	0.166	0.166
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.800	0.045	0.185	0.042
Dependent Variable (sd)	1.000	0.746	1.000	0.794	0.400	0.065	0.388	0.200
Long-Term Orientation (mean)	0.331	0.344	0.331	0.344	0.369	0.344	0.353	0.345
Long-Term Orientation (sd)	0.147	0.154	0.147	0.154	0.164	0.155	0.159	0.155
Long-Term Orientation (beta)	0.056	0.078	0.043	0.091	0.030	-0.036	-0.008	-0.004
N_clust	42	41	42	41	38	43	41	42

Notes. The table replicates the results in Table 7 for the extended definition of second generation immigrants (see this Appendix for details). The table reports OLS estimates, with standard errors clustered at the country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The dependent variables are: students' Florida Comprehensive Assessment Test reading score in grade 3 (standardized with mean 0 and variance 1), the change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year) and retention (an indicator for whether the student repeats the same grade at least once) measured in grades 3-12, and disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident defined as serious offences often leading to suspension) measured in grades 6-12. The regressions also include the same individual controls reported in table A4 (coefficients not reported). The additional country-controls are described in this Appendix. The additional country-controls are described in this Appendix. Panel B specification includes in addition to the standard country controls, also a control for the mean PISA score in Math in the country of origin. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables on this Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A7
Educational outcomes and long term orientation, robustness to country controls, second generation immigrants

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.343*** **	**0.403*** **	**0.190** **	**0.628*** **	**0.127*** **	**-0.052*** **	**0.001**	**0.000**
	(0.106)	**(0.064)**	**(0.086)**	**(0.063)**	**(0.034)**	**(0.016)**	**(0.026)**	**(0.002)**
Log GDP pc year 2000 ppp	-0.075***	-0.114***	0.007	-0.138***	-0.023**	0.011***	0.015*	-0.000
	(0.028)	(0.015)	(0.025)	(0.020)	(0.011)	(0.004)	(0.008)	(0.001)
Distance from the US (log)	0.161***	-0.001	0.126***	-0.085***	0.013	0.016*	-0.085***	-0.013***
	(0.046)	(0.025)	(0.036)	(0.031)	(0.012)	(0.009)	(0.013)	(0.001)
Savings over GDP/100	1.384***	0.735***	0.552**	0.333*	-0.126	0.029	-0.344***	-0.010
	(0.299)	(0.184)	(0.230)	(0.195)	(0.104)	(0.042)	(0.072)	(0.007)
Education selection to Florida	0.064	0.175***	0.193**	0.035	-0.012	-0.018	0.069**	-0.006*
	(0.104)	(0.056)	(0.088)	(0.083)	(0.048)	(0.018)	(0.030)	(0.003)
Observations	140,071	49,526	140,057	49,314	30,474	1,108,495	620,147	898,797
R-squared	0.380	0.368	0.387	0.355	0.375	0.213	0.135	0.103
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.741	0.060	0.243	0.048
Dependent Variable (sd)	1.000	0.782	1.000	0.826	0.438	0.077	0.429	0.214
Long-Term Orientation (mean)	0.193	0.193	0.193	0.193	0.192	0.192	0.191	0.191
Long-Term Orientation (sd)	0.116	0.115	0.116	0.116	0.111	0.113	0.111	0.112
Long-Term Orientation (beta)	0.040	0.060	0.022	0.088	0.032	-0.077	0.000	0.000
N_clust	65	57	65	57	60	69	66	66

PANEL B

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation	**0.303**	**0.343** **	**0.181**	**0.443** **	**0.072**	**-0.013**	**-0.006**	**-0.007***
	(0.184)	**(0.129)**	**(0.182)**	**(0.168)**	**(0.064)**	**(0.008)**	**(0.022)**	**(0.004)**
Log GDP pc year 2000 ppp	-0.077**	-0.116***	-0.011	-0.101***	0.012	0.008***	0.023***	0.000
	(0.033)	(0.024)	(0.022)	(0.025)	(0.011)	(0.001)	(0.005)	(0.001)
Distance from the US (log)	-0.030	-0.010	-0.051	-0.012	0.006	-0.000	-0.007	-0.000
	(0.037)	(0.023)	(0.031)	(0.025)	(0.013)	(0.002)	(0.005)	(0.001)
Savings over GDP/100	0.424	0.260	0.349	-0.333	0.096	-0.082***	-0.246***	0.023**
	(0.535)	(0.278)	(0.463)	(0.432)	(0.168)	(0.015)	(0.079)	(0.011)
Education selection to Florida	0.319***	-0.048	0.407***	-0.007	0.082**	0.008***	-0.032***	-0.015***
	(0.065)	(0.094)	(0.045)	(0.098)	(0.032)	(0.003)	(0.008)	(0.003)
Mean PISA score in Math	0.121*	0.050	0.100*	0.010	0.026	-0.001	-0.020***	-0.006***
	(0.064)	(0.042)	(0.052)	(0.046)	(0.021)	(0.002)	(0.006)	(0.001)
Observations	46,514	14,774	46,507	14,755	5,941	271,969	131,968	221,020
R-squared	0.494	0.499	0.521	0.488	0.464	0.263	0.175	0.177
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.784	0.045	0.196	0.046
Dependent Variable (sd)	1.000	0.756	1.000	0.792	0.412	0.065	0.397	0.209
Long-Term Orientation (mean)	0.302	0.313	0.302	0.313	0.326	0.308	0.313	0.309
Long-Term Orientation (sd)	0.124	0.134	0.124	0.134	0.143	0.130	0.134	0.131
Long-Term Orientation (beta)	0.038	0.061	0.022	0.075	0.025	-0.025	-0.002	-0.004
N_clust	39	38	39	38	28	39	38	39

Notes. The table replicates the results in Table 7 for the second generation immigrants, identified as those who were born in Florida and whose mothers were born abroad (see the text in this Appendix). The Table reports OLS estimates, with standard errors clustered at the country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The dependent variables are: students' Florida Comprehensive Assessment Test reading score in grade 3 (standardized with mean 0 and variance 1), the change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year) and retention (an indicator for whether the student repeats the same grade at least once) measured in grades 3-12, and disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident defined as serious offences often leading to suspension) measured in grades 6-12. The regressions also include the same individual controls reported in Table A4 (coefficients not reported). The additional country-controls are described in this Appendix. Panel B specification includes in addition to the standard country controls, also a control for the mean PISA score in Math in the country of origin. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in this Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A8
Long-Term Orientation and educational outcomes, Heterogeneous effects, second generation (extended definition)

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Long-Term Orientation (LTO)	**0.818*** **	**0.448*** **	**0.437*** **	**0.353** **	**-0.057**	**-0.035** **	**-0.270*** **	**-0.035** **
	(0.202)	**(0.164)**	**(0.111)**	**(0.173)**	**(0.075)**	**(0.018)**	**(0.099)**	**(0.014)**
Mother high school graduate*LTO	-0.209**	-0.064	-0.027	-0.120	0.090	0.017	0.126**	0.013
	(0.087)	(0.074)	(0.064)	(0.093)	(0.072)	(0.012)	(0.049)	(0.010)
Mother attended some college*LTO	-0.358***	-0.258***	-0.047	-0.190*	0.090	0.024*	0.170***	0.025**
	(0.093)	(0.093)	(0.065)	(0.100)	(0.081)	(0.014)	(0.047)	(0.010)
Mother 4yr college graduate*LTO	-0.268***	-0.092	0.051	-0.176	-0.000	0.031**	0.202***	0.024***
	(0.099)	(0.112)	(0.081)	(0.134)	(0.054)	(0.014)	(0.044)	(0.009)
Mother teen pregnancy*LTO	-0.679**	-0.025	-0.877***	-0.199	-0.356	0.030	0.202	0.138***
	(0.341)	(0.488)	(0.277)	(0.373)	(0.495)	(0.021)	(0.162)	(0.041)
Mother married at time of birth*LTO	0.145*	0.103	0.002	0.274***	0.133	0.001	-0.007	0.001
	(0.081)	(0.095)	(0.063)	(0.089)	(0.106)	(0.005)	(0.032)	(0.006)
Number of older siblings*LTO	-0.020	-0.046	-0.024	-0.051	0.008	0.001	-0.019	-0.002
	(0.023)	(0.032)	(0.032)	(0.033)	(0.013)	(0.003)	(0.013)	(0.003)
Median income in zipcode of birth (100,000 of $)*LTO	-0.022	0.224	0.042	-0.001	-0.212**	-0.008	0.083	0.012
	(0.204)	(0.144)	(0.144)	(0.174)	(0.098)	(0.013)	(0.078)	(0.010)
Free or Reduced Priced Lunch*LTO	0.039	-0.109*	0.048	-0.066	0.021	-0.005	-0.051**	-0.005
	(0.073)	(0.058)	(0.066)	(0.068)	(0.038)	(0.007)	(0.021)	(0.003)
Mother high school graduate	0.122***	0.033*	0.094***	0.055*	-0.005	-0.005	-0.044***	-0.011***
	(0.027)	(0.019)	(0.028)	(0.030)	(0.015)	(0.003)	(0.010)	(0.004)
Mother attended some college	0.240***	0.103***	0.187***	0.105***	-0.000	-0.006	-0.061***	-0.018***
	(0.020)	(0.025)	(0.022)	(0.028)	(0.028)	(0.004)	(0.009)	(0.004)
Mother 4yr college graduate	0.390***	0.169***	0.304***	0.210***	0.053***	-0.012***	-0.094***	-0.022***
	(0.017)	(0.025)	(0.022)	(0.032)	(0.010)	(0.004)	(0.008)	(0.002)
Mother teen pregnancy	0.048	0.008	0.128***	-0.021	0.102	0.006	0.013	-0.019***
	(0.057)	(0.088)	(0.041)	(0.065)	(0.067)	(0.005)	(0.031)	(0.007)
Mother married at time of birth	0.074***	0.037**	0.084***	-0.003	0.012	-0.007***	-0.055***	-0.008***
	(0.014)	(0.018)	(0.012)	(0.020)	(0.023)	(0.001)	(0.006)	(0.001)
Number of older siblings	-0.024***	-0.004	-0.035***	0.002	-0.007**	0.003***	0.024***	0.004***
	(0.007)	(0.008)	(0.011)	(0.008)	(0.003)	(0.001)	(0.002)	(0.001)
Median income in zipcode of birth (100,000 of $)	0.177***	-0.049	0.134***	0.043	0.113***	0.006	-0.057*	-0.013***
	(0.048)	(0.048)	(0.029)	(0.038)	(0.031)	(0.005)	(0.029)	(0.004)
Free or Reduced Priced Lunch	-0.163***	-0.012	-0.174***	-0.050***	-0.022*	0.001	0.049***	0.007***
	(0.014)	(0.013)	(0.014)	(0.015)	(0.012)	(0.003)	(0.004)	(0.001)
Observations	184,331	62,005	184,309	61,668	6,623	960,054	425,110	762,581
R-squared	0.369	0.334	0.379	0.319	0.325	0.183	0.151	0.121
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.874	0.045	0.208	0.042
Dependent Variable (sd)	1.000	0.778	1.000	0.809	0.332	0.057	0.406	0.200
Long-Term Orientation (mean)	0.207	0.209	0.207	0.210	0.214	0.206	0.206	0.206
Long-Term Orientation (sd)	0.143	0.149	0.143	0.149	0.158	0.144	0.146	0.144
Long-Term Orientation (beta)	0.117	0.086	0.062	0.065	-0.027	-0.088	-0.097	-0.025
N_clust	90	79	90	79	58	90	82	90

Notes. The Table repeats the same analysis reported in Table 10 for the following dependent variables: students' Florida Comprehensive Assessment Test reading score in grade 3 (standardized with mean 0 and variance 1), the change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year) and retention (an indicator for whether the student repeats the same grade at least once) measured in grades 3-12, and disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident defined as serious offences often leading to suspension) measured in grades 6-12. The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes the extended version of second generation immigrants defined using the information on the country of origin of the mother when available (Canada, Mexico, and Puerto Rico) or the language spoken at home for individuals whose mother was born either in the US or abroad (when the country of origin of the mother is not available). See details in the text and the appendix for how the matching between languages and countries has been implemented. The regressions also include the same individual controls reported in Table A4 (coefficients not reported). Maternal controls are also described in the note of Table A4. The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. We describe in details all the variables in this Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A9
Futureless language (Chen) and educational outcomes, robustness to the exclusion of Spanish

PANEL A: 1st generation + 2nd generation (extended definition), exclusion of Spanish speakers

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Futureless Language (Chen)	**0.302*** **	**0.216** **	**0.172*** **	**0.182** **	**0.028** **	**-0.012** **	**-0.047** **	**-0.003** **
	(0.107)	**(0.093)**	**(0.053)**	**(0.085)**	**(0.011)**	**(0.006)**	**(0.022)**	**(0.001)**
Observations	67,788	26,033	67,757	25,964	18,646	581,789	343,900	465,393
R-squared	0.405	0.422	0.417	0.420	0.353	0.168	0.119	0.114
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.877	0.042	0.133	0.023
Dependent Variable (sd)	1.000	0.766	1.000	0.844	0.328	0.064	0.339	0.149
Futureless Language (mean)	0.108	0.110	0.108	0.109	0.093	0.102	0.100	0.101
Futureless Language (sd)	0.310	0.312	0.310	0.312	0.291	0.303	0.300	0.301
Futureless Language (beta)	0.094	0.088	0.053	0.067	0.025	-0.055	-0.042	-0.006
N_clust	80	73	80	73	70	85	83	84

PANEL B: 1st generation, exclusion of Spanish speakers

VARIABLES	(1) Math score, 3rd grade	(2) Math score, change 3rd to 8th	(3) Reading score, 3rd grade	(4) Reading score, change 3rd to 8th	(5) Graduation	(6) % Absent Days	(7) Disciplinary Incident	(8) Retention
Futureless Language (Chen)	**0.305*** **	**0.237** **	**0.110*** **	**0.161** **	**0.004**	**-0.005***	**-0.037*** **	**-0.003***
	(0.050)	**(0.104)**	**(0.038)**	**(0.069)**	**(0.018)**	**(0.003)**	**(0.007)**	**(0.001)**
Observations	30,274	11,985	30,261	11,947	11,392	321,798	204,298	253,240
R-squared	0.529	0.566	0.536	0.565	0.400	0.213	0.145	0.150
Year*school FE	YES	YES	YES	YES	YES	YES	YES	YES
Country FE	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	-	-	-	-	-	YES	YES	YES
Individual controls	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.867	0.045	0.133	0.024
Dependent Variable (sd)	1.000	0.782	1.000	0.862	0.339	0.067	0.340	0.155
Futureless Language (mean)	0.067	0.063	0.067	0.063	0.066	0.072	0.073	0.068
Futureless Language (sd)	0.250	0.244	0.250	0.243	0.248	0.258	0.260	0.252
Futureless Language (beta)	0.076	0.074	0.027	0.045	0.003	-0.020	-0.028	-0.005
N_clust	77	70	77	70	68	84	81	82

Notes. The table repeats the same analysis as Table 13, Panel A and B in the text excluding students speaking Spanish. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. In Panel A, the sample pools together first generation immigrants defined using the information on both the country of origin and the language spoken at home and the extended version of second generation immigrants defined using the information on the country of origin of the mother when available (Canada) or the language spoken at home for individuals whose mother was born either in the US or abroad (when the country of origin of the mother is not available). See details in the text and this Appendix for how the matching between languages and countries has been implemented. Panel B includes only first generation immigrants. The dependent variables are: students' Florida Comprehensive Assessment Test math score in grade 3 (standardized with mean 0 and variance 1), the change in math score from grade 3 to grade 8, reading score in grade 3 (standardized with mean 0 and variance 1), change in reading score from grade 3 to grade 8, high school graduation (a dummy for whether the student received a standard diploma within four years after entering the 9th grade for the first time), absence rates (the percentage of days in which the student is absent during the academic year), disciplinary incidents (a dummy for whether the student was involved in a disciplinary incident, defined as serious offences often leading to suspension), and retention (an indicator for whether the student repeats the same grade at least once). The regressions also include the same individual controls reported in Table A4 (coefficients not reported). Futureless language is a dummy variable equal to 1 for "futureless" languages (languages that do not require "obligatory future time reference use in prediction-based contexts") from Chen (2013). We describe in details all the variables in this Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A10
List of countries of origin, PISA, first and second generation (mother side and father side)

COUNTRY	1st generation	2nd generation (mother)	2nd generation (father)	COUNTRY	1st generation	2nd generation (mother)	2nd generation (father)
Albania	1,187	375	347	Macedonia	40	37	35
Argentina	217	93	85	Malaysia	119	71	61
Australia	368	189	151	Montenegro	17	88	79
Austria	71	273	198	Morocco	15	190	206
Bangladesh	7	13	11	Netherlands	306	262	308
Belarus	42	554	509	New Zealand	776	938	945
Belgium	155	307	271	Nigeria	4	0	2
Bosnia and Herzegovina	804	2,331	2,063	Pakistan	76	236	266
Brazil	331	225	207	Philippines	339	518	213
Bulgaria	9	36	20	Poland	159	359	279
Canada	5	2	2	Portugal	1,722	3,034	2,866
Chile	19	77	61	Republic of Korea	293	48	49
China	6,987	15,456	14,637	Romania	58	69	75
Colombia	9	6	7	Russian Federation	893	1,556	1,604
Croatia	147	254	212	Saudi Arabia	0	0	1
Czech Republic	80	223	195	Serbia	804	1,002	611
Denmark	37	84	113	Singapore	16	9	10
Egypt	952	769	715	Slovakia	172	582	690
Estonia	136	88	59	Slovenia	13	15	18
France	1,079	1,364	1,171	South Africa	418	114	116
Georgia	1	0	0	Spain	85	376	466
Germany	1,363	1,384	1,147	Sweden	276	396	307
Great Britain	2,686	4,330	4,396	Switzerland	172	116	99
Greece	25	101	165	Taiwan	22	28	11
Hong Kong-China	378	255	475	Tanzania	0	1	0
Hungary	17	20	18	Thailand	37	15	2
India	281	240	247	Turkey	589	3,194	3,497
Iran (Islamic Republic of)	8	7	12	Ukraine	133	566	607
Iraq	213	128	178	United States	1,409	489	636
Italy	383	1,754	3,029	Uruguay	16	97	85
Japan	2	2	0	Viet Nam	76	351	346
Jordan	592	187	149	Zambia	1	0	0
Lithuania	2	0	0				
				Total	27,649	45,884	45,340

Notes. The table reports the number of observations by country of origin for both first and second generation immigrants in the PISA sample. The observations for second generation students are calculated based both on mothers' or fathers' countries of origin. See the text of this Appendix for details.

Table A11
Number of first and second generation immigrants, by country of destination, PISA

COUNTRY	1st generation	2nd generation (mother)	2nd generation (father)	COUNTRY	1st generation	2nd generation (mother)	2nd generation (father)
Argentina	68	235	192	Latvia	242	2,032	2,200
Australia	3,070	5,411	5,453	Liechtenstein	239	279	247
Austria	773	1,340	1,310	Luxembourg	1,906	3,357	3,463
Belgium	1,375	1,221	1,256	Mauritius	3	19	12
China	2,971	10,082	9,466	Mexico	1,162	253	400
Costa Rica	9	6	7	Moldova	80	192	178
Croatia	633	1,698	1,616	Montenegro	956	1,421	779
Czech Republic	269	684	800	Netherlands	160	542	590
Denmark	233	962	1,033	New Zealand	1,567	951	1,012
Finland	688	614	469	Norway	133	231	228
Germany	277	1,173	1,244	Portugal	190	64	65
Great Britain	385	496	458	Qatar	1,544	956	863
Greece	770	207	178	Serbia	13	84	75
Hong Kong-China	3,773	5,063	5,162	Slovak Republic	74	213	185
Indonesia	72	18	19	Slovenia	12	11	16
Ireland	1,080	850	699	Switzerland	1,937	4,426	4,988
Israel	487	351	316	Turkey	74	111	61
Korea	7	16	1	Uruguay	330	193	181
Kyrgyzstan	87	122	118				
				Total	27,649	45,884	45,340

Notes. The table reports the number of observations of immigrants students (first and second generation) by country of destinations in the PISA sample. The observations for second generations students are calculated based both on mothers' or fathers' countries of origin.

Table A12
Long-Term Orientation and educational outcomes, PISA
Second generation immigrants (paternal side)

VARIABLES	(1) Math	(2) Reading	(3) Science	(4) Retention	(5) Truancy	(6) Math	(7) Reading	(8) Science	(9) Retention	(10) Truancy
Long-Term Orientation	0.697***	0.669***	0.767***	-0.080***	-0.073**	0.747***	0.708***	0.823***	-0.086***	-0.074**
	(0.205)	(0.188)	(0.204)	(0.021)	(0.031)	(0.211)	(0.198)	(0.213)	(0.019)	(0.031)
Male	0.188***	-0.327***	0.076***	0.011*	-0.010	0.196***	-0.324***	0.078***	0.009	-0.010
	(0.016)	(0.035)	(0.019)	(0.006)	(0.008)	(0.015)	(0.033)	(0.019)	(0.006)	(0.008)
Age of student	-0.213***	-0.199***	-0.181***	0.271***	0.046***	-0.222***	-0.205***	-0.187***	0.291***	0.047***
	(0.032)	(0.033)	(0.034)	(0.035)	(0.012)	(0.035)	(0.038)	(0.040)	(0.034)	(0.012)
Wealth						-0.002	-0.018*	-0.025**	0.005	0.004
						(0.012)	(0.009)	(0.010)	(0.004)	(0.003)
Observations	45,340	45,340	45,340	29,735	13,346	38,033	38,033	38,033	23,448	13,314
R-squared	0.365	0.338	0.342	0.478	0.104	0.378	0.347	0.352	0.490	0.104
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Grade FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Parents' education FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country of destination FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Dependent Variable (mean)	0.000	0.000	0.000	0.143	0.120	0.000	0.000	0.000	0.156	0.120
Dependent Variable (sd)	1.000	1.000	1.000	0.350	0.325	1.000	1.000	1.000	0.363	0.324
Long-Term Orientation (mean)	0.643	0.643	0.643	0.639	0.617	0.642	0.642	0.642	0.634	0.617
Long-Term Orientation (sd)	0.223	0.223	0.223	0.224	0.230	0.228	0.228	0.228	0.231	0.230
Long-Term Orientation (beta)	0.156	0.149	0.171	-0.051	-0.052	0.170	0.161	0.187	-0.055	-0.052
N_clust	60	60	60	57	55	57	57	57	53	55

Notes. The table reports OLS estimates, with standard errors clustered at the country of origin level. The unit of observation is a second generation immigrant student on the paternal side from one of the 63 countries residing in one of the 37 countries surveyed in PISA for which information about the country of origin of the parents is available (4 waves from 2003 to 2012 depending on whether the variables used in the regression are all available – details are on the online Appendix). The dependent variables are Math, Reading, Science scores calculated according to the description on the online appendix, retention (a dummy variable equal to 1 if a student repeated at least one year during his/her school career), and truancy (a dummy variable equal to 1 if the student skipped at least one full day of school in the previous two weeks). The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. Individual controls are: male (a dummy equal to one if the student is a boy), age (the age of the student expressed in years), dummies for student grade and for parents' education, wealth (an index of family wealth possessions built by OECD – PISA). We describe in details all the variables (and their availability in different PISA waves) on the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

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