

Web Appendix for

Long-Term Orientation and Educational Performance

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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 figures and tables that were discussed in the body of the paper, but not reported there explicitly. Section A4 discusses the existence of within-country selection along Long-Term Orientation. Section A5 describes the analysis using data from the Program for International Student Assessment (PISA).

A2. Data and their sources

In this section we describe in more details 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. Table A1 presents the sample statistics for the analysis performed in this Appendix.

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.

A.2.2. Description of variables for the Florida analysis

<i>Dependent variables</i>		
<i>Name of the variable</i>	<i>Description</i>	<i>Source (and when possible and useful name of the raw variable)</i>
Math score	Development scale score in the Mathematics section of the FCAT. We standardize the statewide test scores to zero mean and unit variance at the grade/year level based on the sub-sample used in each regression/specification.	Source: FLDOE Created using raw variables: DEV_SCALE_SCORE, SUBTEST_ID, TEST_GRADE_LEVEL, CURRENT_ACADEMIC_YEAR
Math score, change 3 rd to 8 th	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. We standardize the statewide test scores to zero mean and unit variance at the grade/year level based on the sub-sample used in each regression/specification.	Source: FLDOE Created using raw variables: DEV_SCALE_SCORE, SUBTEST_ID, TEST_GRADE_LEVEL, CURRENT_ACADEMIC_YEAR
Reading score, change 3 rd to 8 th	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

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

% 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.shtml	Source: FLDOE Created using raw variables: COURSE_NUMBER
Individual controls		
<i>Name of the variable</i>	<i>Description</i>	<i>Source</i>

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_PROFIENCY_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 A11 Panel D 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 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.	Source: FLDOE Created using raw variables: LANGUAGE_HAVE_PARENTS_S PEAKING COUNTRY_CD_BORNED_IN
Country controls		
<i>Name of the variable</i>	<i>Description</i>	<i>Source</i>
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, Feliciano (2005)	Calculated as the net difference index used by Feliciano (2005) and proposed by Lieberman (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
Educational selection, Hanushek et al. (forthcoming)	For each country of origin, Hanushek et al. (forthcoming) calculate the selectivity parameter for school attainment as the percentile p of the home country distribution from which the average immigrants to the US is drawn. For the exact formula see Hanushek et al. (forthcoming)	Source: "Knowledge Capital and Aggregate Income Differences: Development Accounting for U.S. States", Hanushek et al. (<i>American Economic Journal: Macroeconomics</i> , forthcoming)
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: <code>post1500maximumcalories0mean_aa</code> 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: <code>prediction_ftr</code>
<i>Other cultural variables</i>		
Trust	The variable "trust" is constructed using the question A165 from the World Value Survey. The respondent is asked whether "Generally speaking, would you say that most people can be trusted" (coded as 1) or that "you need to be very careful in dealing with people?" (coded as 0). Our variable is the average at the country level of the	World Values Survey, Waves 1-6.

	fraction of people reporting that “most people can be trusted”.	
Hard Work	The variable “hard work” is constructed using the variable E040 from the World Value Survey. The original question asks the respondent to choose, on a scale from 1 to 10, between two opposite statements: “In the long run, hard work usually brings a better life” (taking the value of 1) and “Hard work doesn’t generally bring success – it’s more a matter of luck and connections” (taking value of 10). For ease of interpretation, we recoded the question so that to a higher value is associated with the importance of hard work. We take the average at the country level of the recoded variable.	World Values Survey, Waves 2, 3, 5 and 6.
Individualism	Individualism is defined as a preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families. Its opposite, collectivism, represents a preference for a tightly-knit framework in society in which individuals can expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty. A society’s position on this dimension is reflected in whether people’s self-image is defined in terms of “I” or “we.”	Hofstede (2010)
Indulgence/restraint	Indulgence stands for a society that allows relatively free gratification of basic and natural human drives related to enjoying life and having fun. Restraint stands for a society that suppresses gratification of needs and regulates it by means of strict social norms	Hofstede (2010)
Masculinity/femininity	Masculinity represents a preference in society for achievement, heroism, assertiveness and material rewards for success. Society at large is more competitive. Its opposite, femininity, stands for a preference for cooperation, modesty, caring for the weak and quality of life. Society at large is more consensus-oriented.	Hofstede (2010)
Uncertainty avoidance	The Uncertainty Avoidance dimension expresses the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity. Countries exhibiting strong UAI maintain rigid codes of belief and behavior and are intolerant of	Hofstede (2010)

	unorthodox behavior and ideas. Weak UAI societies maintain a more relaxed attitude in which practice counts more than principles.	
Power Distance	The power distance index is defined as “the extent to which the less powerful members of organizations and institutions (like the family) accept and expect that power is distributed unequally.” A higher degree of the Index indicates that hierarchy is clearly established and executed in society, without doubt or reason. A lower degree of the Index signifies that people question authority and attempt to distribute power	Hofstede (2010)
<i>European Social Survey</i>		
Planning for the future	“Do you generally plan for your future or do you just take each day as it comes? Please express your opinion on a scale from 0 to 10, where 0 means ‘I plan for my future as much as possible’ and 10 means ‘I just take each day as it comes’ ”. We recoded the question so that a higher number indicates more long-term oriented individuals.	European Social Survey, round 3.
Importance of having fun	The respondent is given the description of a person and he/she has to choose, on a scale from 1 to 6 whether the person is “Very much like me”, “Like me”, “Somewhat like me”, “A little like me”, “Not like me”, “Not like me at all”. “He seeks every chance he can to have fun. It is important to him to do things that give him pleasure”. We recoded the question so that a higher number indicates more long-term individuals	European Social Survey, Rounds 1-6
Importance of having a good time	The respondent is given the description of a person and he/she has to choose, on a scale from 1 to 6 whether the person is “Very much like me”, “Like me”, “Somewhat like me”, “A little like me”, “Not like me”, “Not like me at all”. “Having a good time is important to him. He likes to spoil himself”. We coded all the questions so that a higher number indicates more long-term oriented individuals.	European Social Survey, Rounds 1-6

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

Sample selection of immigrants attending public schools in Florida. 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. One possible concern is that the population of immigrant students attending public schools is not representative of student immigrants in Florida. To address this

concern, we compare the characteristics of first and second-generation immigrants going to public schools with those of the natives.² The descriptive statistics for the three groups based on Census 2000 and 2010 are shown in Table A4. 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%).³ 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).⁴ The patterns are similar for 2010.

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.⁵ 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

² When we look at the Census, we define second-generation immigrants as children born in the US with at least one parent born abroad.

³ 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.

⁴ The differences across groups in the Census 2010 are similar.

⁵ 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.

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.⁶ We refer to the former sample as “second generation”, and to the latter as “second 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 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.2.4. Description of variables for the Program for International Student Assessment

⁶ 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.

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.⁷

<i>Dependent variables</i>		
<i>Name of the variable</i>	<i>Description</i>	<i>Source</i>
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.
<i>Individual controls</i>		

⁷ 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.

<i>Name of the variable</i>	<i>Description</i>	<i>Source</i>
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 variables "none" is the omitted category.	Constructed using the variable HISCED
Wealth	<i>Wealth</i> 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
Descriptive statistics

	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	1,023,304	0.213	0.154	2,166,731	0.207	0.141
Math score, 3rd grade	69,652	0.000	1.000	160,763	0.000	1.000	305,382	0.000	1.000
Math score, change 3rd to 8th	28,046	0.000	0.783	55,880	0.000	0.773	107,053	0.000	0.775
Reading score, 3rd grade	69,600	0.000	1.000	160,756	0.000	1.000	305,358	0.000	1.000
Reading score, change 3rd to 8th	27,931	0.000	0.843	55,586	0.000	0.803	106,543	0.000	0.813
Graduation	24,067	0.791	0.407	25,684	0.800	0.400	57,130	0.769	0.421
% Absent Days	724,946	0.051	0.070	1,023,304	0.045	0.063	2,166,731	0.053	0.071
Disciplinary Incident	451,227	0.173	0.378	524,262	0.211	0.408	1,163,755	0.227	0.419
Retention	579,293	0.038	0.190	844,819	0.045	0.206	1,771,660	0.046	0.210
Male*	724,946	0.512	0.500	1,023,304	0.505	0.500	2,166,731	0.510	0.500
Age in months*	724,946	148.449	31.452	1,023,304	141.271	30.739	2,166,731	142.709	30.895
Special education*	724,946	0.080	0.271	1,023,304	0.136	0.343	2,166,731	0.143	0.350
Free or Reduced Priced Lunch*	724,946	0.610	0.488	1,023,304	0.725	0.446	2,166,731	0.709	0.454
Enrolled in Limited English proficiency program*	724,946	0.333	0.471	1,023,304	0.127	0.333	2,166,731	0.159	0.366
Enrolled in Limited English proficiency in grade 3	28,046	0.417	0.493	55,880	0.211	0.408	107,053	0.217	0.412
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	0.422	0.138	-	-	-

	PANEL B								
	1st generation + 2nd generation (extended definition)								
	Obs.	Mean	St. dev.				Obs.	Mean	St. dev.
Long-Term Orientation*	2,891,677	0.219	0.160	Education selection to Florida (Feligano)*			2,813,769	0.432	0.186
Math score, 3rd grade	375,034	0.000	1.000	Education selection (Hanushek et al.)*			762,302	0.821	0.107
Math score, change 3rd to 8th	135,100	0.000	0.778	Mean PISA score in Math*			889,490	4.208	0.521
Reading score, 3rd grade	374,958	0.000	1.000	Trust*			2,807,150	0.193	0.086
Reading score, change 3rd to 8th	134,475	0.000	0.828	Hard work*			2,787,641	6.771	0.412
Graduation	81,197	0.776	0.417	Individualism/collectivism*			964,622	32.127	19.359
% Absent Days	2,891,677	0.052	0.071	Uncertainty avoidance*			964,622	71.834	18.445
Disciplinary Incident	1,614,982	0.212	0.409	Masculinity/femininity*			964,622	60.124	12.221
Retention	2,350,953	0.044	0.205	Indulgence/restraint*			2,801,558	75.781	18.923
Male*	2,891,677	0.511	0.500	Power distance			964,622	70.020	15.507
Age in months*	2,891,677	144.148	31.135	Fraction speaking the same language (log)*			384,139	-0.709	1.255
Special education*	2,891,677	0.127	0.333	Fraction of advanced classes			512,070	0.058	0.145
Free or Reduced Priced Lunch*	2,891,677	0.684	0.465	Fraction of advanced classes (scientific subjects)			512,070	0.013	0.054
Enrolled in Limited English proficiency program*	2,891,677	0.203	0.402	Math score, 8th grade			512,070	0.042	0.982
Enrolled in Limited English proficiency in grade 3	135,100	0.259	0.438	School Letter Score (from A to F) at t-1, (pre-) kindergarten			241,492	4.097	1.000
Log GDP pc year 2000 ppp*	2813769	3.138	0.504	School Letter Score (from A to F) at t-1, all grades			3478527	4.125	1.013
Distance from the US (log)*	2,813,769	8.274	0.467	Gifted in grade 4			26,308	0.112	0.316
Savings over GDP/100*	2,813,769	0.211	0.052	Futureless Language (Chen)*			2,780,956	0.021	0.145
				Maximum Crop Yield (Galar)*			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 this 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 A2
List of countries, first generation immigrants, unrestricted and restricted sample

	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		Netherlands	154	66
Bosnia and Herzegovina	369	327	Nigeria	204	179
Brazil	3,028	2,511	Norway	59	
Bulgaria	182	114	Pakistan	495	477
Canada	2,312	1,782	Peru	3,368	3,197
Chile	786	721	Philippines	1,697	1,603
China	1,421	492	Poland	188	134
Colombia	10,387	9,856	Portugal	99	
Croatia	71	55	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
Finland	69		Singapore	69	53
France	503	381	South Africa	288	254
Germany	2,657	512	Spain	687	482
Ghana	52		Sweden	161	88
Greece	220	72	Switzerland	86	
Hungary	141	85	Taiwan	75	
Iceland	77		Thailand	240	144
India	1,380	1,322	Trinidad and Tobago	513	508
Indonesia	69		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	Non-disclosed countries	632	751
Jordan	144	121			
			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 of 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 50. We refer to the sum of all of them, as Non-disclosed countries. See the text of this Appendix for details.

Table A3**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
Albanian	208	426	Lao	304	497
Amharic	50	79	Lithuanian		57
Arabic	1,878	3,205	Malay	88	152
Armenian		68	Malayalam	127	265
Bengali	412	624	Mexico (country)	34,556	34,556
Bulgarian		70	Nepali		50
Chinese	1,830	3,153	Norwegian		52
Croatian	50	83	Panjabi		72
Czech	78	116	Persian, Iranian	232	372
Canada (country)	3,769	3,769	Polish	349	690
Dutch	143	224	Portuguese	2,294	3,965
Estonian, Standard	69	105	Puerto Rico (country)	13,391	13,391
Finnish		96	Romanian	191	304
French	1,668	2,858	Russian	528	1,134
German	369	752	Serbian	314	507
Greek	180	658	Slovak		63
Gujarati	401	801	Spanish	65,294	187,672
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		114
Japanese	178	340	Urdu	854	1,339
Kanjolal		90	Vietnamese	2,500	4,442
Khmer	213	461	Yoruba	62	116
			Not-disclosed languages	570	491
			Total	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 50. We refer to the sum of all of them, as Non-disclosed languages.

Table A4
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 A5
Long-Term Orientation and additional educational outcomes, FLDOE
First 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	0.591*** (0.135)	0.427*** (0.111)	0.281*** (0.086)	0.362*** (0.116)	0.092*** (0.031)	-0.024*** (0.008)	-0.125*** (0.023)	-0.018*** (0.006)
Male	0.116*** (0.007)	0.007 (0.008)	-0.055*** (0.007)	-0.042*** (0.011)	-0.033*** (0.004)	-0.002*** (0.000)	0.090*** (0.006)	0.011*** (0.001)
Age in months	-0.004*** (0.001)	-0.017*** (0.001)	-0.005*** (0.001)	-0.012*** (0.002)	-0.004*** (0.001)	0.001*** (0.000)	0.005*** (0.000)	-0.000*** (0.000)
Free or Reduced Priced Lunch	-0.191*** (0.017)	-0.068*** (0.014)	-0.200*** (0.016)	-0.109*** (0.017)	0.002 (0.009)	-0.003 (0.002)	0.039*** (0.005)	0.005*** (0.001)
Special education	-0.654*** (0.030)	-0.352*** (0.023)	-0.676*** (0.018)	-0.436*** (0.029)	-0.203*** (0.023)	0.009*** (0.002)	0.059*** (0.003)	0.032*** (0.005)
Enrolled in Limited English proficiency program	-0.671*** (0.026)		-0.839*** (0.022)		-0.393*** (0.015)	0.007*** (0.001)	0.010** (0.005)	0.035*** (0.003)
Enrolled in Limited English proficiency in grade 3		0.099*** (0.019)		0.035 (0.023)				
Math score in grade 3		-0.370*** (0.016)						
Reading score in grade 3				-0.446*** (0.016)				
Observations	69,652	28,046	69,600	27,931	24,067	724,946	451,227	579,293
R-squared	0.458	0.417	0.473	0.426	0.383	0.185	0.123	0.114
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	0.791	0.051	0.173	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)	0.255	0.254	0.255	0.254	0.262	0.257	0.259	0.256
Long-Term Orientation (sd)	0.192	0.190	0.192	0.189	0.203	0.200	0.202	0.197
Long-Term Orientation (beta)	0.113	0.103	0.054	0.081	0.046	-0.069	-0.067	-0.019
N_dust	89	84	89	84	88	92	92	92

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 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 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 of the main text. 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 A6
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*** (0.131)	0.441*** (0.109)	0.494*** (0.078)	0.390*** (0.090)	0.084*** (0.009)	-0.022** (0.009)	-0.175*** (0.046)	-0.022*** (0.005)
Male	0.127*** (0.024)	-0.031*** (0.008)	-0.068*** (0.017)	-0.051*** (0.010)	-0.049*** (0.004)	-0.000 (0.000)	0.093*** (0.006)	0.014*** (0.002)
Age in months	-0.012*** (0.001)	-0.018*** (0.001)	-0.014*** (0.002)	-0.013*** (0.001)	-0.006*** (0.001)	0.001*** (0.000)	0.007*** (0.000)	-0.001*** (0.000)
Free or Reduced Priced Lunch	-0.241*** (0.014)	-0.056*** (0.013)	-0.245*** (0.014)	-0.090*** (0.013)	-0.008 (0.007)	0.001 (0.002)	0.048*** (0.006)	0.009*** (0.001)
Special education	-0.650*** (0.027)	-0.234*** (0.009)	-0.739*** (0.023)	-0.183*** (0.012)	-0.161*** (0.003)	0.006*** (0.000)	0.027*** (0.003)	0.033*** (0.001)
Enrolled in Limited English proficiency program	-0.657*** (0.019)		-0.727*** (0.029)		-0.304*** (0.019)	0.004*** (0.001)	0.043*** (0.006)	0.069*** (0.004)
Enrolled in Limited English proficiency in grade 3		-0.029** (0.014)		-0.127*** (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. clusters	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 A7
Long-Term Orientation and educational performance, FLDOE
Second generation immigrants, extended definition

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	Retention
Long-Term Orientation	0.769*** (0.120)	0.494*** (0.100)	0.502*** (0.059)	0.447*** (0.087)	0.127*** (0.019)	-0.026*** (0.008)	-0.178*** (0.037)	-0.025*** (0.003)
Male	0.134*** (0.017)	-0.024*** (0.007)	-0.062*** (0.013)	-0.048*** (0.004)	-0.043*** (0.001)	-0.001*** (0.000)	0.096*** (0.002)	0.014*** (0.001)
Age in months	-0.012*** (0.001)	-0.019*** (0.000)	-0.013*** (0.001)	-0.014*** (0.000)	-0.006*** (0.000)	0.001*** (0.000)	0.007*** (0.000)	-0.000*** (0.000)
Free or Reduced Priced Lunch	-0.240*** (0.010)	-0.064*** (0.009)	-0.250*** (0.008)	-0.094*** (0.008)	-0.014*** (0.005)	0.002 (0.002)	0.056*** (0.004)	0.010*** (0.001)
Special education	-0.662*** (0.017)	-0.265*** (0.008)	-0.753*** (0.020)	-0.207*** (0.007)	-0.188*** (0.006)	0.007*** (0.000)	0.035*** (0.002)	0.032*** (0.001)
Enrolled in Limited English proficiency program	-0.633*** (0.005)		-0.709*** (0.013)		-0.322*** (0.005)	0.007*** (0.001)	0.038*** (0.004)	0.052*** (0.003)
Enrolled in Limited English proficiency in grade 3		0.017 (0.018)		-0.076*** (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_dust	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 A8
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 A9
Long-Term Orientation and maternal characteristics, extended second generation

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	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	0.352	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 A10
Long-Term Orientation and educational outcomes, robustness to the inclusion of the PISA
score in mathematics in the country of origin
First and second generation immigrants (extended definition), pooled

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	0.398***	0.327***	0.285***	0.269**	0.045	-0.014**	-0.071***	-0.012**
	(0.124)	(0.104)	(0.098)	(0.126)	(0.034)	(0.006)	(0.026)	(0.006)
Log GDP pc year 2000 ppp	-0.125***	-0.141***	-0.056***	-0.124***	-0.022***	0.008***	0.030***	0.004***
	(0.026)	(0.028)	(0.020)	(0.030)	(0.007)	(0.001)	(0.005)	(0.001)
Distance from the US (log)	-0.019	-0.022	-0.032	-0.029	-0.002	0.002**	-0.003	0.000
	(0.027)	(0.019)	(0.024)	(0.021)	(0.005)	(0.001)	(0.004)	(0.001)
Savings over GDP/100	-0.028	0.223*	-0.149	0.174	-0.044	-0.011	-0.073**	-0.001
	(0.208)	(0.121)	(0.234)	(0.225)	(0.081)	(0.010)	(0.037)	(0.021)
PISA score in math	0.049	0.020	0.010	-0.016	0.025*	-0.005***	-0.017*	-0.001
	(0.043)	(0.045)	(0.032)	(0.052)	(0.013)	(0.002)	(0.010)	(0.002)
Observations	109,331	40,560	109,304	40,438	26,202	889,490	510,495	718,548
R-squared	0.420	0.391	0.438	0.400	0.364	0.189	0.123	0.112
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	0.806	0.048	0.171	0.037
Dependent Variable (sd)	1.000	0.773	1.000	0.836	0.396	0.067	0.376	0.190
Long-Term Orientation (mean)	0.313	0.309	0.313	0.309	0.319	0.315	0.317	0.313
Long-Term Orientation (sd)	0.169	0.174	0.169	0.174	0.190	0.181	0.186	0.179
Long-Term Orientation (beta)	0.067	0.074	0.048	0.056	0.022	-0.038	-0.035	-0.011
N_clust	108	103	108	103	102	110	108	109

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 the pooled sample of first generation (defined using both the information on 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. The dependent variables include: students' Florida Comprehensive Assessment Test math and reading score in grade 3 (standardized with mean 0 and variance 1), the change in math and 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. All the regressions include the same individual controls described in Table 2 (coefficients not reported). The country controls are described in the appendix. 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 A11
Long-Term Orientation and educational performance, robustness to sample selection,
FLDOE

PANEL A: 1st generation + 2ndplus generation (extended definition), exclusion of Latin America								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	Retention
Long-Term Orientation	0.458*** (0.169)	0.385*** (0.133)	0.243* (0.124)	0.367*** (0.122)	0.036** (0.016)	-0.014 (0.010)	-0.067* (0.036)	-0.003 (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

PANEL B: 1st generation + 2ndplus generation (extended definition), exclusion of Asia								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	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

Table A11-continued
Long-Term Orientation and educational performance, robustness to sample selection,
FLDOE

PANEL C: 1st generation + 2nd generation (extended definition), inclusion of continent FE								
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade level	Math score, change 3rd to 8th	Reading score, 3rd grade level	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	Retention
Long-Term Orientation	0.701*** (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
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 _{dust}	94	89	94	89	92	96	96	96

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 C includes the overall sample. Panel A excludes immigrants from Central and Latin America. Panel B 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 C 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 A12
Educational performance and alternative measures of Long-Term Orientation, FLDOE

PANEL A: 1st generation + 2nd generation (extended definition)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	Retention
Futureless Language (Chen)	0.443*** (0.116)	0.327*** (0.105)	0.271*** (0.054)	0.279*** (0.092)	0.058*** (0.016)	-0.017*** (0.006)	-0.081*** (0.024)	-0.010*** (0.002)
Observations	354,502	128,372	354,419	127,793	79,456	2,780,956	1,566,300	2,253,450
R-squared	0.340	0.302	0.357	0.295	0.337	0.183	0.117	0.084
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	0.783	0.053	0.201	0.042
Dependent Variable (sd)	1.000	0.774	1.000	0.826	0.412	0.071	0.401	0.200
Futureless Language (mean)	0.021	0.022	0.021	0.022	0.022	0.021	0.022	0.021
Futureless Language (sd)	0.142	0.147	0.142	0.147	0.146	0.145	0.146	0.143
Futureless Language (beta)	0.063	0.062	0.039	0.050	0.020	-0.035	-0.030	-0.007
N_clust	81	74	81	74	71	86	84	85

PANEL B: 1st generation								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	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 A12-continued
Educational performance and alternative measures of Long-Term Orientation, FLDOE

PANEL C: 1st generation + 2nd generation (extended definition), excluding the Americas								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	Retention
Maximum Crop Yield (Galar)	0.042*** (0.010)	0.030*** (0.008)	0.025*** (0.008)	0.031*** (0.008)	0.004** (0.002)	-0.002*** (0.001)	-0.010*** (0.002)	-0.000 (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

PANEL D: 1st generation + 2nd generation (extended definition)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to 8th	Reading score, 3rd grade	Reading score, change 3rd to 8th	Graduation	% Absent Days	Disciplinary Incident	Retention
Thrift (WVS)	0.657*** (0.066)	0.388*** (0.085)	0.351*** (0.045)	0.381*** (0.082)	0.062*** (0.021)	-0.006 (0.014)	-0.187*** (0.030)	-0.019*** (0.004)
Observations	374,044	134,779	373,969	134,154	81,027	2,885,058	1,611,511	2,345,697
R-squared	0.339	0.303	0.350	0.294	0.337	0.186	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
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.775	0.052	0.212	0.044
Dependent Variable (sd)	1.000	0.778	1.000	0.829	0.417	0.071	0.409	0.205
Thrift (mean)	0.388	0.390	0.388	0.390	0.393	0.390	0.391	0.389
Thrift (sd)	0.180	0.182	0.180	0.182	0.187	0.183	0.185	0.183
Thrift (beta)	0.118	0.091	0.063	0.084	0.028	-0.017	-0.084	-0.017
N_clust	175	163	175	163	165	181	177	180

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 and Panel D 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). In Panel D, thrift is the answer to the question from the WVS asking "Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?" The variable has been normalized between 0 and 1. We describe in details all the variables in the online Appendix. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A13
Long-Term Orientation and educational performance, robustness to other cultural variables

First and 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
Trust								
Long-Term Orientation	0.785***	0.405***	0.537***	0.479***	0.083***	-0.009	-0.205***	-0.029***
	(0.153)	(0.085)	(0.103)	(0.108)	(0.024)	(0.009)	(0.049)	(0.007)
Trust	-0.234	0.130	-0.217	-0.084	0.045	-0.054***	0.111	0.018
	(0.237)	(0.137)	(0.153)	(0.188)	(0.040)	(0.018)	(0.098)	(0.012)
Observations	363,157	130,804	363,090	130,195	78,905	2,807,150	1,569,296	2,282,427
R-squared	0.342	0.310	0.352	0.301	0.338	0.196	0.124	0.087
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.773	0.053	0.213	0.045
Dependent Variable (sd)	1.000	0.780	1.000	0.830	0.419	0.071	0.410	0.206
Long-Term Orientation (mean)	0.208	0.211	0.208	0.211	0.216	0.211	0.213	0.210
Long-Term Orientation (sd)	0.143	0.147	0.143	0.147	0.156	0.150	0.153	0.148
Long-Term Orientation (beta)	0.112	0.076	0.077	0.085	0.031	-0.019	-0.077	-0.021
N_clust	140	133	140	133	134	142	139	141
Hard work								
Long-Term Orientation	0.701***	0.463***	0.444***	0.449***	0.103***	-0.030***	-0.159***	-0.021***
	(0.117)	(0.074)	(0.087)	(0.091)	(0.022)	(0.005)	(0.021)	(0.005)
Hard work bring success	-0.074	0.016	-0.046	-0.024	0.006	-0.012***	0.027	0.003
	(0.054)	(0.043)	(0.038)	(0.056)	(0.012)	(0.003)	(0.020)	(0.003)
Observations	360,722	129,909	360,656	129,299	78,347	2,787,641	1,558,233	2,266,907
R-squared	0.342	0.310	0.353	0.301	0.338	0.197	0.124	0.087
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.772	0.053	0.213	0.045
Dependent Variable (sd)	1.000	0.780	1.000	0.830	0.419	0.071	0.410	0.207
Long-Term Orientation (mean)	0.207	0.209	0.207	0.209	0.215	0.210	0.211	0.209
Long-Term Orientation (sd)	0.142	0.146	0.142	0.146	0.156	0.149	0.152	0.148
Long-Term Orientation (beta)	0.100	0.087	0.063	0.079	0.038	-0.064	-0.059	-0.015
N_clust	129	123	129	123	123	131	128	130
Individualism								
Long-Term Orientation	0.531***	0.405***	0.301***	0.331***	0.098***	-0.023***	-0.103***	-0.013***
	(0.099)	(0.066)	(0.076)	(0.070)	(0.024)	(0.005)	(0.013)	(0.004)
Individualism	0.022	-0.072	0.066	-0.168*	-0.006	-0.000	-0.034**	-0.000
	(0.124)	(0.087)	(0.105)	(0.090)	(0.031)	(0.005)	(0.016)	(0.005)
Observations	118,432	44,057	118,391	43,918	28,472	964,622	554,107	778,760
R-squared	0.429	0.385	0.443	0.394	0.367	0.187	0.123	0.110
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.812	0.046	0.163	0.036
Dependent Variable (sd)	1.000	0.762	1.000	0.828	0.391	0.067	0.369	0.186
Long-Term Orientation (mean)	0.326	0.324	0.326	0.324	0.328	0.326	0.326	0.324
Long-Term Orientation (sd)	0.184	0.190	0.184	0.190	0.199	0.192	0.195	0.190
Long-Term Orientation (beta)	0.098	0.101	0.055	0.076	0.050	-0.065	-0.054	-0.013
N_clust	114	111	114	111	109	115	113	114
Indulgence/restraint								
Long-Term Orientation	0.750***	0.404***	0.469***	0.437***	0.075***	-0.022**	-0.203***	-0.020***
	(0.146)	(0.092)	(0.105)	(0.120)	(0.026)	(0.009)	(0.056)	(0.007)
Indulgence	0.122	-0.090	0.062	-0.000	-0.044	0.020*	-0.053	-0.000
	(0.151)	(0.110)	(0.103)	(0.151)	(0.029)	(0.012)	(0.057)	(0.009)
Observations	362,627	130,582	362,560	129,973	78,744	2,801,558	1,565,824	2,277,991
R-squared	0.343	0.310	0.353	0.301	0.338	0.195	0.124	0.087
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.773	0.053	0.213	0.045
Dependent Variable (sd)	1.000	0.779	1.000	0.830	0.419	0.071	0.409	0.206
Long-Term Orientation (mean)	0.208	0.211	0.208	0.211	0.216	0.211	0.213	0.210
Long-Term Orientation (sd)	0.143	0.147	0.143	0.147	0.156	0.150	0.153	0.148
Long-Term Orientation (beta)	0.107	0.076	0.067	0.077	0.028	-0.047	-0.076	-0.015
N_clust	141	134	141	134	135	143	140	142

Table A13-continued
Long-Term Orientation and educational performance, robustness to other cultural variables
First and Second Generation immigrants (extended definition)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Math score, 3rd grade	Math score, change 3rd to	Reading score, 3rd grade	Reading score, change 3rd to	Graduation	% Absent Days	Disciplinary Incident	Retention
Masculinity/feminity								
Long-Term Orientation	0.541***	0.391***	0.326***	0.287***	0.094***	-0.024***	-0.109***	-0.011***
	(0.090)	(0.059)	(0.067)	(0.065)	(0.021)	(0.004)	(0.010)	(0.003)
Masculinity	0.010	0.048	0.011	0.069	-0.007	-0.005	0.016	0.006
	(0.107)	(0.072)	(0.073)	(0.089)	(0.028)	(0.005)	(0.017)	(0.005)
Observations	118,432	44,057	118,391	43,918	28,472	964,622	554,107	778,760
R-squared	0.429	0.385	0.443	0.394	0.367	0.187	0.123	0.110
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.812	0.046	0.163	0.036
Dependent Variable (sd)	1.000	0.762	1.000	0.828	0.391	0.067	0.369	0.186
Long-Term Orientation (mean)	0.326	0.324	0.326	0.324	0.328	0.326	0.326	0.324
Long-Term Orientation (sd)	0.184	0.190	0.184	0.190	0.199	0.192	0.195	0.190
Long-Term Orientation (beta)	0.100	0.098	0.060	0.066	0.048	-0.069	-0.058	-0.011
N_clust	114	111	114	111	109	115	113	114
Power Distance								
Long-Term Orientation	0.508***	0.366***	0.324***	0.273***	0.081***	-0.024***	-0.108***	-0.011***
	(0.090)	(0.060)	(0.067)	(0.074)	(0.023)	(0.004)	(0.011)	(0.004)
Power Distance	-0.138	-0.049	0.001	0.022	-0.063**	-0.004	0.029	0.005
	(0.131)	(0.092)	(0.102)	(0.127)	(0.031)	(0.007)	(0.026)	(0.007)
Observations	118,432	44,057	118,391	43,918	28,472	964,622	554,107	778,760
R-squared	0.429	0.385	0.443	0.394	0.368	0.187	0.123	0.110
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.812	0.046	0.163	0.036
Dependent Variable (sd)	1.000	0.762	1.000	0.828	0.391	0.067	0.369	0.186
Long-Term Orientation (mean)	0.326	0.324	0.326	0.324	0.328	0.326	0.326	0.324
Long-Term Orientation (sd)	0.184	0.190	0.184	0.190	0.199	0.192	0.195	0.190
Long-Term Orientation (beta)	0.094	0.092	0.060	0.063	0.041	-0.068	-0.057	-0.012
N_clust	114	111	114	111	109	115	113	114
Uncertainty Avoidance								
Long-Term Orientation	0.481***	0.362***	0.263***	0.299***	0.080***	-0.016***	-0.097***	-0.012***
	(0.096)	(0.061)	(0.077)	(0.074)	(0.025)	(0.005)	(0.011)	(0.005)
Uncertainty Avoidance Index	-0.126	-0.033	-0.135	0.065	-0.035	0.015***	0.053***	0.001
	(0.092)	(0.058)	(0.087)	(0.065)	(0.022)	(0.005)	(0.016)	(0.005)
Observations	118,432	44,057	118,391	43,918	28,472	964,622	554,107	778,760
R-squared	0.429	0.385	0.443	0.394	0.368	0.188	0.123	0.110
Dependent Variable (mean)	0.000	0.000	0.000	0.000	0.812	0.046	0.163	0.036
Dependent Variable (sd)	1.000	0.762	1.000	0.828	0.391	0.067	0.369	0.186
Long-Term Orientation (mean)	0.326	0.324	0.326	0.324	0.328	0.326	0.326	0.324
Long-Term Orientation (sd)	0.184	0.190	0.184	0.190	0.199	0.192	0.195	0.190
Long-Term Orientation (beta)	0.089	0.090	0.048	0.069	0.041	-0.046	-0.051	-0.013
N_clust	114	111	114	111	109	115	113	114

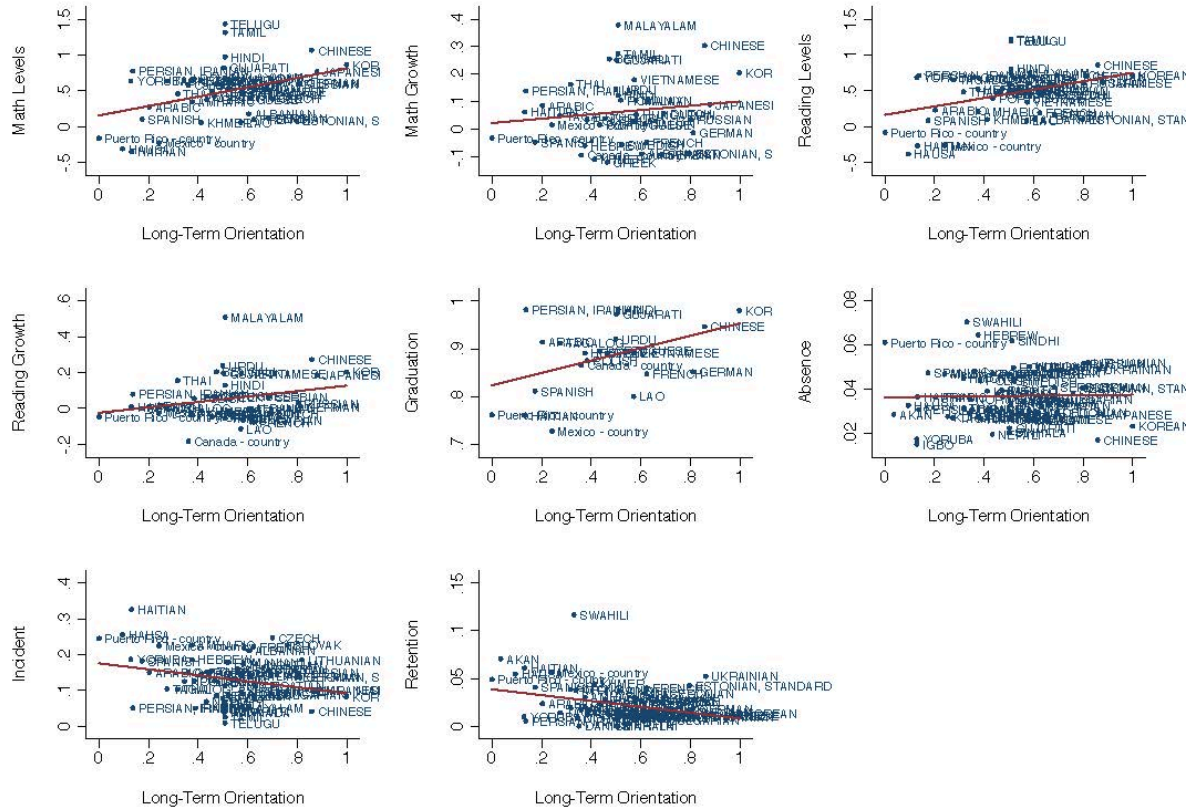
Notes: The table reports OLS estimates, with standard errors clustered at the language/country level. The unit of observation is a student born between 1992 and 2002 and observed during the academic years 2002-2012. The sample includes the pooled sample of first generation (defined using both the information on 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. The dependent variables include: students' Florida Comprehensive Assessment Test math and reading score in grade 3 (standardized with mean 0 and variance 1), the change in math and 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. All the regressions include the same individual and country controls described in Table 9 (coefficients not reported). The "Long Term Orientation" variable is based on Hofstede (2010) and is measured on a 0-1 scale. ***, **, and * indicate significance at the 1%, 5%, and 10% levels.

Table A14
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)	(0.025)	(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.

Figure A1
Long-Term Orientation and educational outcomes, raw correlation, FLDOE
Second generation immigrants



Note: Plots of various educational outcomes averaged by second-generation immigrants groups and LTO. Each educational outcome is described in Section 1.1.1. For purposes of confidentiality, we only show data points for immigrants groups (sharing the same languages) where we observe at least 50 individuals.

Figure A2
Long-Term Orientation and educational outcomes, raw correlation, FLDOE
First generation immigrants

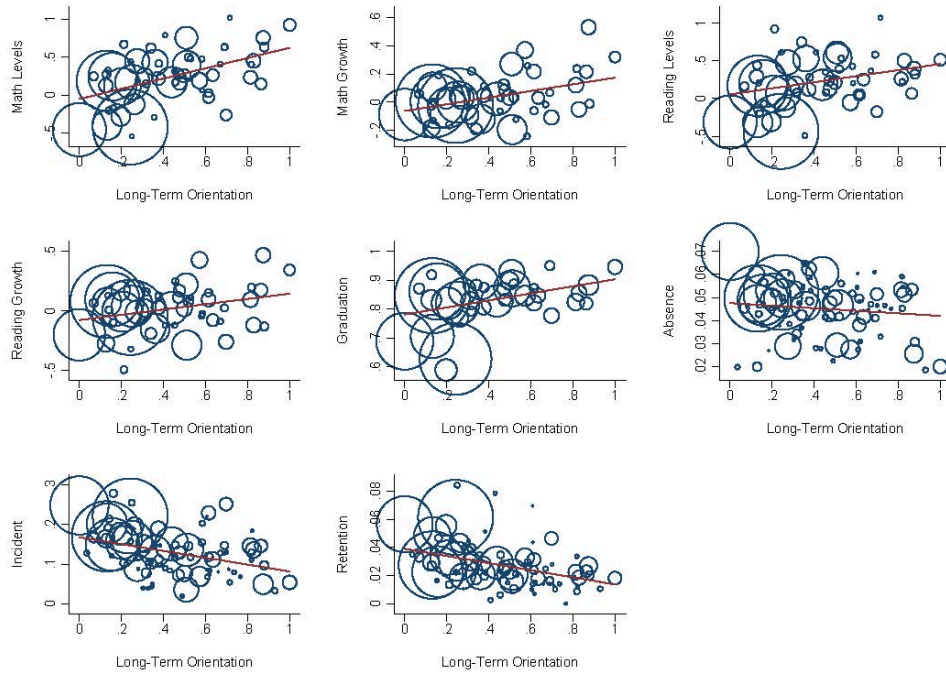


Figure A3
Long-Term Orientation and educational outcomes, raw correlation, FLDOE
Second generation immigrants

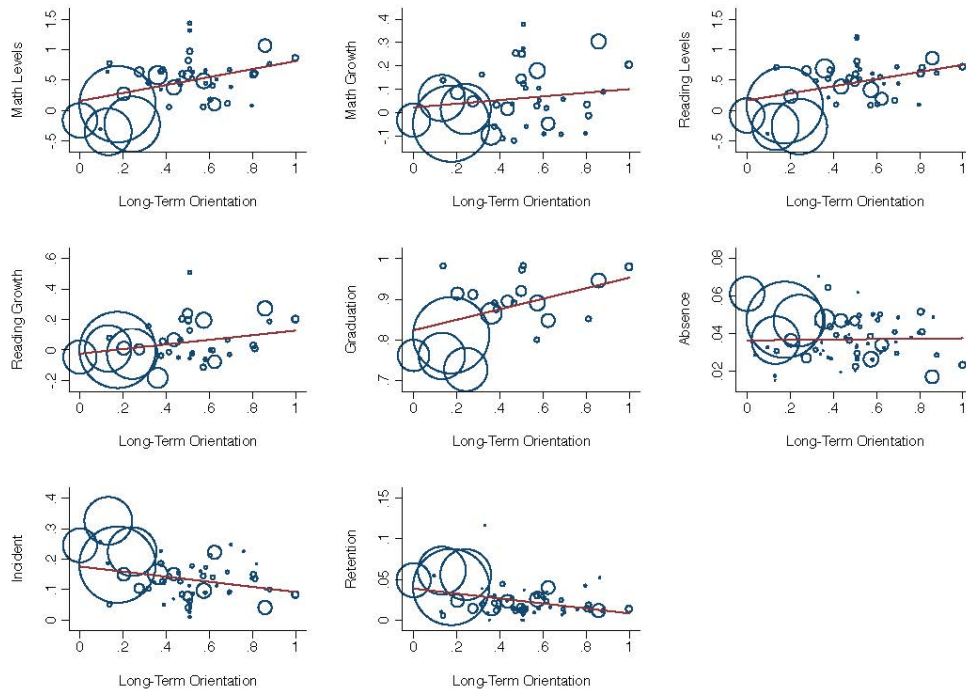
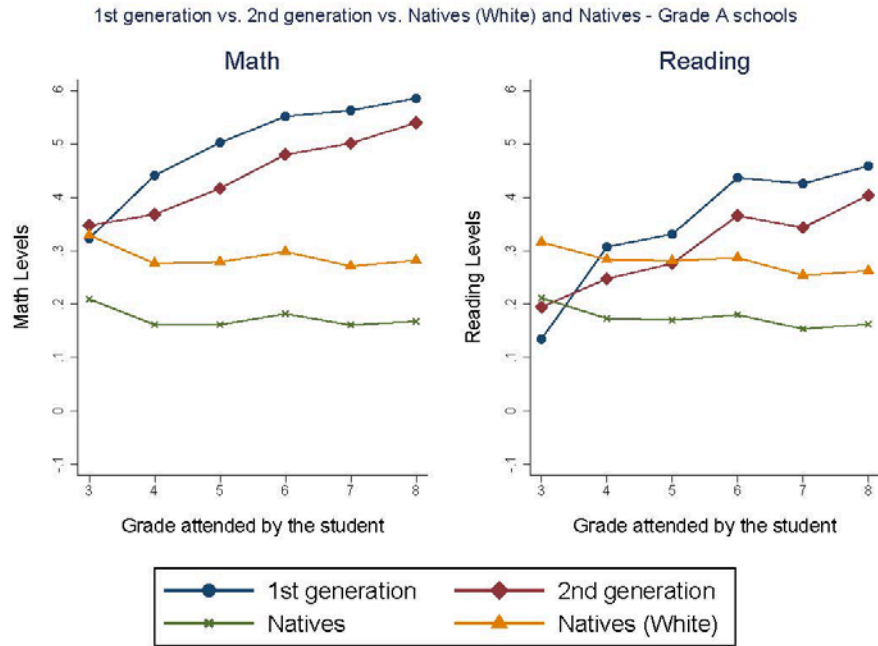


Figure A4
Long-Term Orientation and educational outcomes, FLDOE
Native, First and Second generation immigrants, Grade A Schools



Note: Sub-sample of native, first-generation, and second-generation students observed in the data continuously from grade 3 to grade 8. For each group (natives, natives-white, first-generation, and second-generation), math and reading scores are first averaged by grade and by country of origin (natives, natives-white, first-generation) or by grade and language spoken at home (second-generation). Then, for first and second-generation students, data are averaged again, so each subgroup of immigrants is weighted equally. The sample is further restricted to students going to grade A schools only.

A.4. Selection of Immigrants on Long-Term Orientation

The European Social Survey contains information on the country of origin of immigrants, therefore allowing us to calculate a proxy of Long-Term Orientation for first generation immigrants by country. We find three potential proxies for Long-Term Orientation, based on the following three questions. The first question asks the respondent: “Do you generally plan for your future or do you just take each day as it comes? Please express your opinion on a scale from 0 to 10, where 0 means ‘I plan for my future as much as possible’ and 10 means ‘I just take each day as it comes’ ”. This question is however asked only in the third round of the European Social Survey and the number of individuals by country of origin is very small. We therefore select two other questions that were asked in all rounds. For these questions, the respondent is given the description of a person and he/she has to choose, on a scale from 1 to 6 whether the person is “Very much like me”, “Like me”, “Somewhat like me”, “A little like me”, “Not like me”, “Not like me at all”. We chose the following two descriptions “He seeks every chance he can to have fun. It is important to him to do things that give him pleasure”, and “Having a good time is important to him. He likes to spoil himself”. We coded all the questions so that a higher number indicates more long-term oriented individuals.

In Figures A5-A7, we plot the partial correlations between each of the three proxies of Long-Term Orientation for first generation immigrants, averaged at the country of origin level, and the measure of Long Term Orientation from the country of origin. As it is apparent from the Figures, while the measures of Long-Term Orientation for first generation immigrants are positively correlated with the one from the country of origin, it is not systematically the case that immigrants coming from Long-Term Oriented countries are positively selected in terms of this measure: the Long-Term Orientation measure of immigrants coming from these countries is not systematically higher than the one in the countries of origin.

Figure A5
Partial correlation between Long-Term Orientation of Immigrants and Long-Term Orientation from the country of origin, based on the question “Planning for the Future”

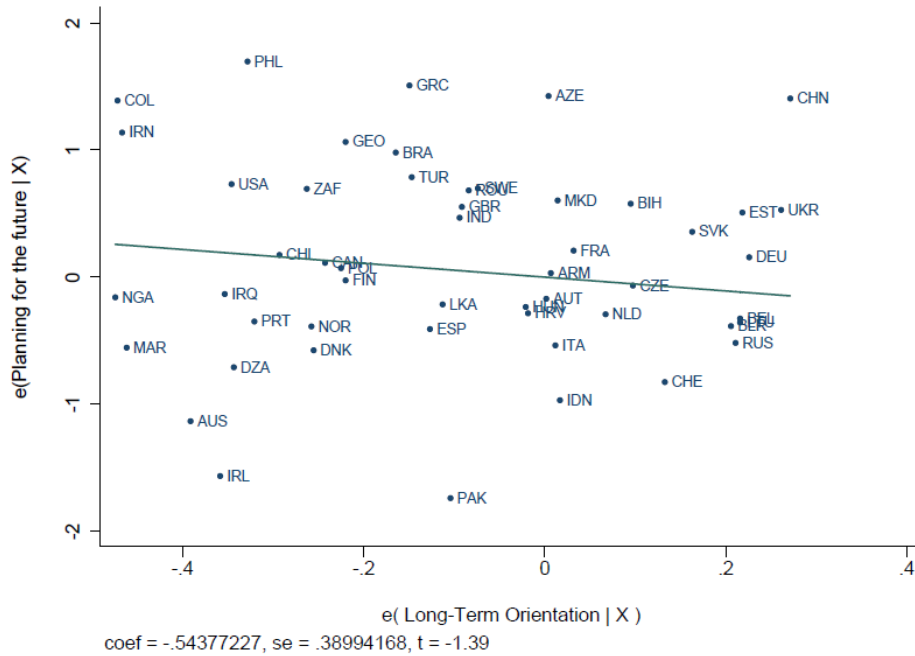


Figure A6
Partial correlation between Long-Term Orientation of Immigrants and Long-Term Orientation from the country of origin, based on the question “Importance of having fun”

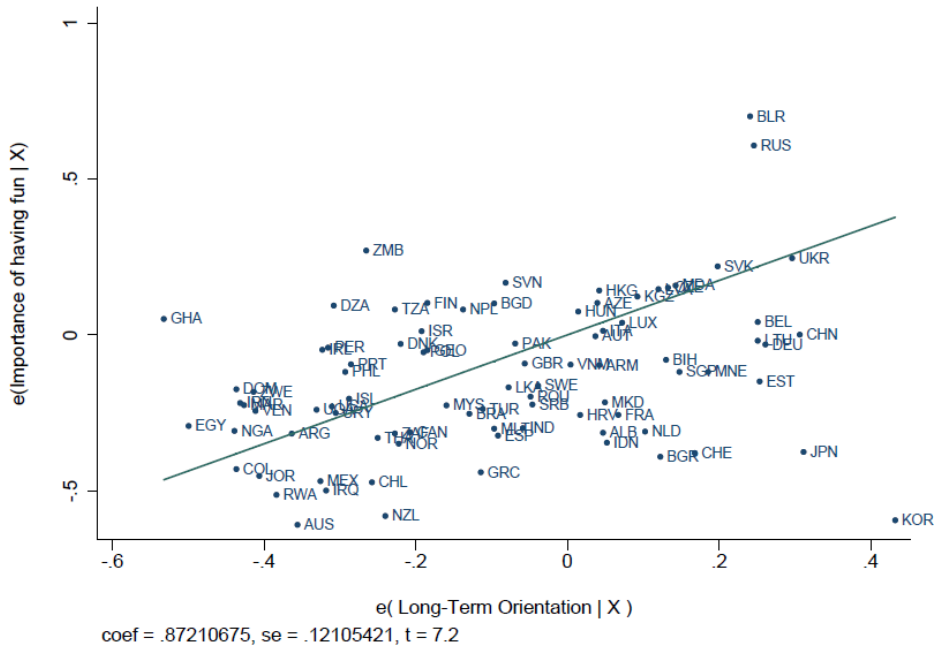
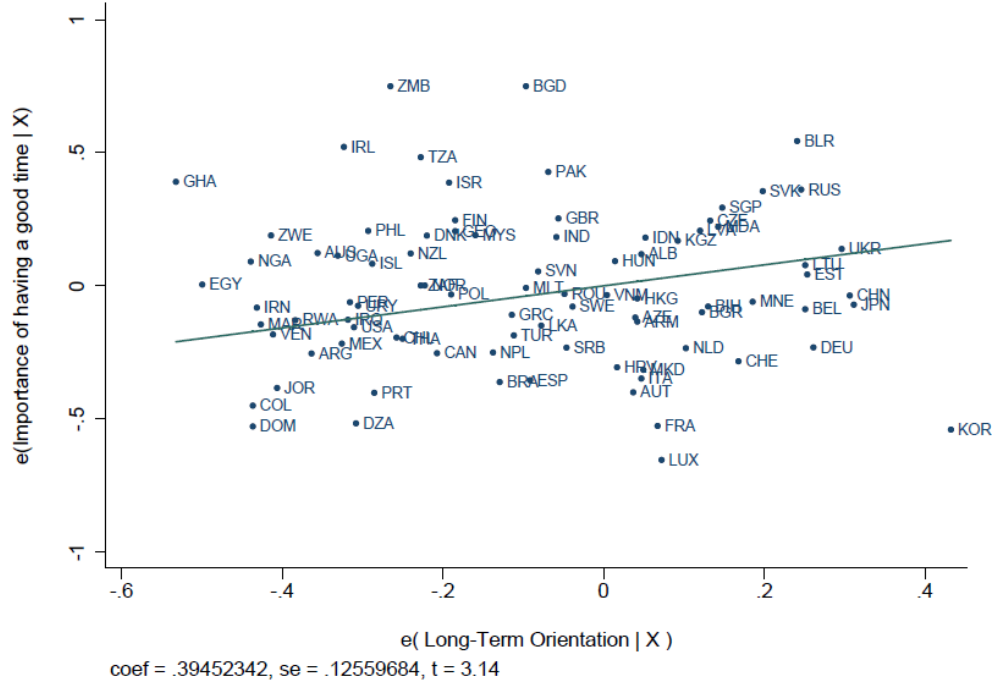


Figure A7
Partial correlation between Long-Term Orientation of Immigrants and Long-Term Orientation from the country of origin, based on the question “Importance of having a good time”



A.5. External validity from the Program for International Student Assessment (PISA)

For external validity, we replicate the results using 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 old students every three years since 2000.⁸

PISA assesses a range of relevant skills in three main domains: mathematics, reading, and science. To make these results comparable with the analysis for Florida we re-standardized all the scores to zero mean and unit variance.⁹ In addition to test scores, PISA also provides information on retention and truancy. We measure retention with 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. We measure truancy with 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.¹⁰ Descriptive statistics for our sample are provided in Table A17.

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. The results of our replications are presented in the Online Appendix.

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 we classify them 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.¹¹ The list of countries of origin for first and second-generation is provided in Table A15.¹²

Figures A8 and A9 plot the raw correlations between LTO and the five educational outcomes for both first and second-generation immigrants. Although the data relate to immigrants

⁸ We use the 2003, 2006, 2009 and 2012 waves containing information about countries of origin of the students and their parents.

⁹ 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.

¹⁰ This variable is present only in the 2012 PISA wave.

¹¹ Nonetheless, we present the results based on fathers' country of origin in Table A12 of the Appendix. They show that the effects are very similar. We also run the regressions where both parents come from the same country of origin. Although the sample size is much smaller the magnitude is similar to the maternal and parental specifications.

¹² The 37 countries of destination included in our analysis are reported in Table A16.

or children of immigrants in thirty-seven different destination countries, the basic correlation between LTO and educational performance is 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 A18-A20). 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 A18-A20). PISA also contains an index for family wealth, an important control that we did not have in the FLDOE data, as differences in educational performance could correlate to 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 using a very different set of destination countries from the US, it is remarkable that the magnitudes of the LTO beta coefficients reported at the bottom of each table have a similar order of magnitude to the LTO beta coefficients estimated in the Florida sample.

Finally, Figures A10 and A11 present binned scatter plots of the mean of different educational outcomes for first and second-generation students in PISA versus the mean level of LTO. Consistent with our regression results, we do find a significantly strong relationship between LTO and educational outcomes for both generations.

Table A15**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 A16
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 A17
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 A18
Long-Term Orientation and educational outcomes, PISA
First generation immigrants

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Math	Reading	Science	Retention	Truancy	Math	Reading	Science	Retention	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 A19
Long-Term Orientation and educational outcomes, PISA
Second generation immigrants (maternal side)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Math	Reading	Science	Retention	Truancy	Math	Reading	Science	Retention	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

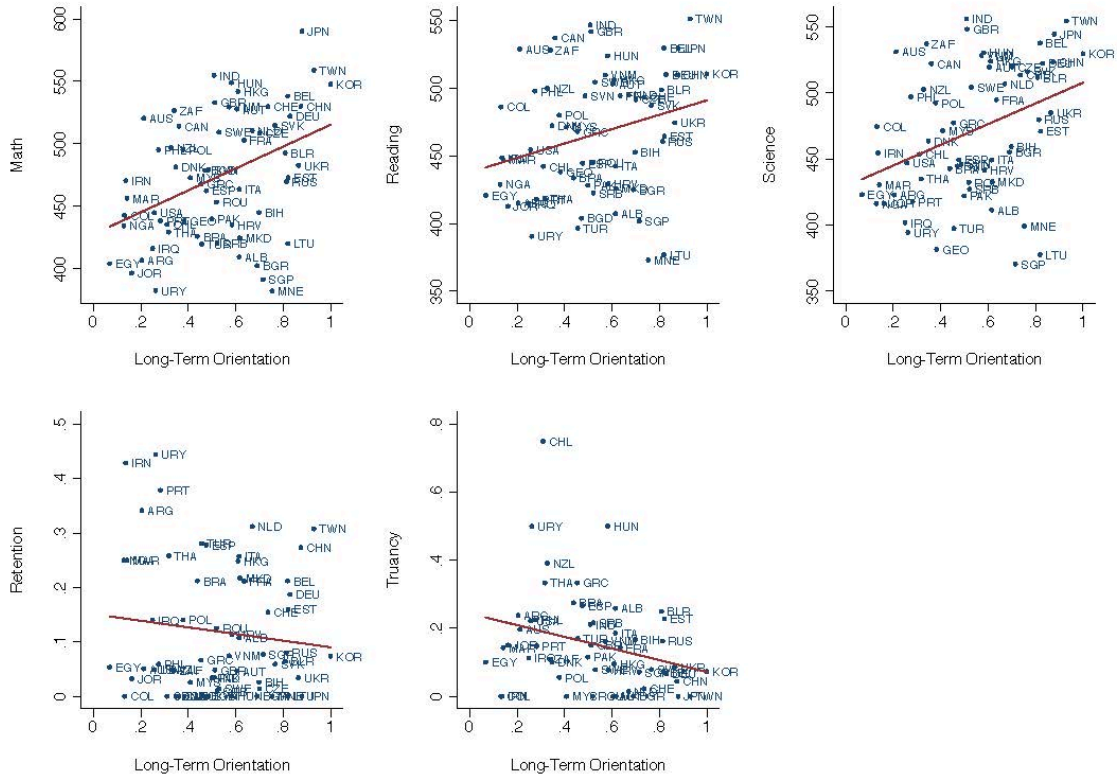
Notes. The table reports OLS estimates, with standard errors clustered at the country of origin level. The unit of observation is a second generation immigrant student on the maternal side from one of the 63 countries residing in one of the 37 countries surveyed in PISA for which information about the 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.

Table A20
Long-Term Orientation and educational outcomes, PISA
Second generation immigrants (paternal side)

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Math	Reading	Science	Retention	Truancy	Math	Reading	Science	Retention	Truancy
Long-Term Orientation	0.697*** (0.205)	0.669*** (0.188)	0.767*** (0.204)	-0.080*** (0.021)	-0.073** (0.031)	0.747*** (0.211)	0.708*** (0.198)	0.823*** (0.213)	-0.086*** (0.019)	-0.074** (0.031)
Male	0.188*** (0.016)	-0.327*** (0.035)	0.076*** (0.019)	0.011* (0.006)	-0.010 (0.008)	0.196*** (0.015)	-0.324*** (0.033)	0.078*** (0.019)	0.009 (0.006)	-0.010 (0.008)
Age of student	-0.213*** (0.032)	-0.199*** (0.033)	-0.181*** (0.034)	0.271*** (0.035)	0.046*** (0.012)	-0.222*** (0.035)	-0.205*** (0.038)	-0.187*** (0.040)	0.291*** (0.034)	0.047*** (0.012)
Wealth						-0.002 (0.012)	-0.018* (0.009)	-0.025** (0.010)	0.005 (0.004)	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

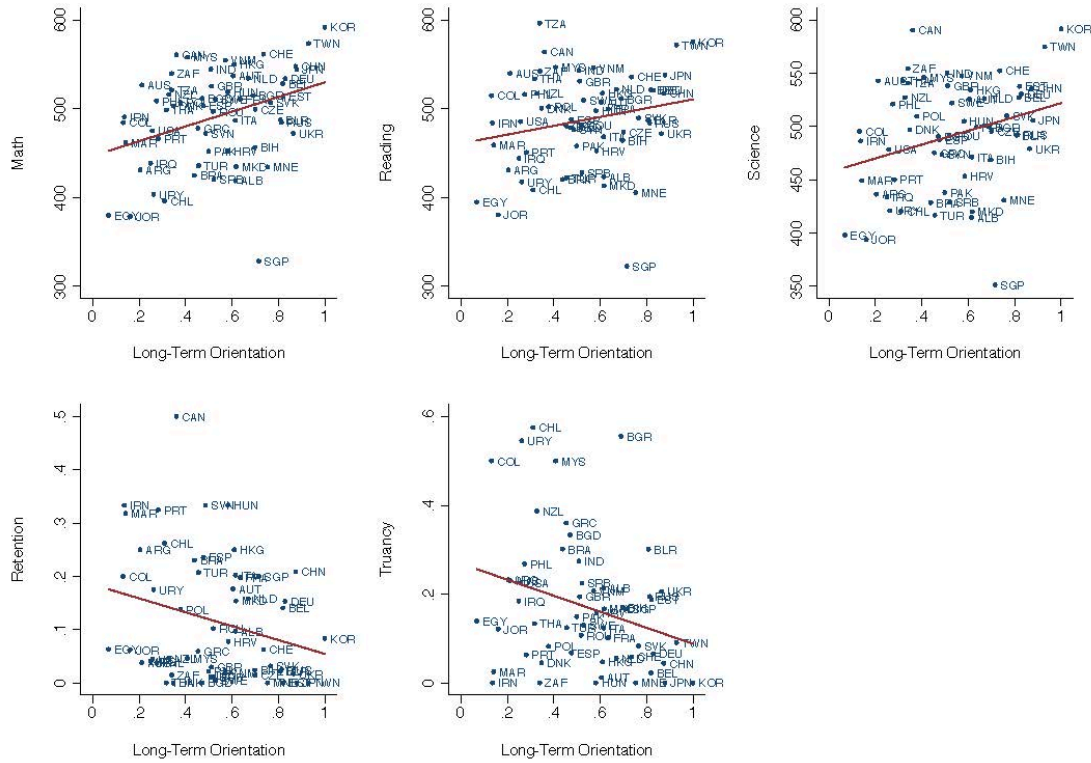
Notes. The table reports OLS estimates, with standard errors clustered at the country of origin level. The unit of observation is a second generation immigrant student on the paternal side from one of the 63 countries residing in one of the 37 countries surveyed in PISA for which information about the 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.

Figure A8
Long-Term Orientation and educational outcomes, raw correlations, PISA
First generation immigrants



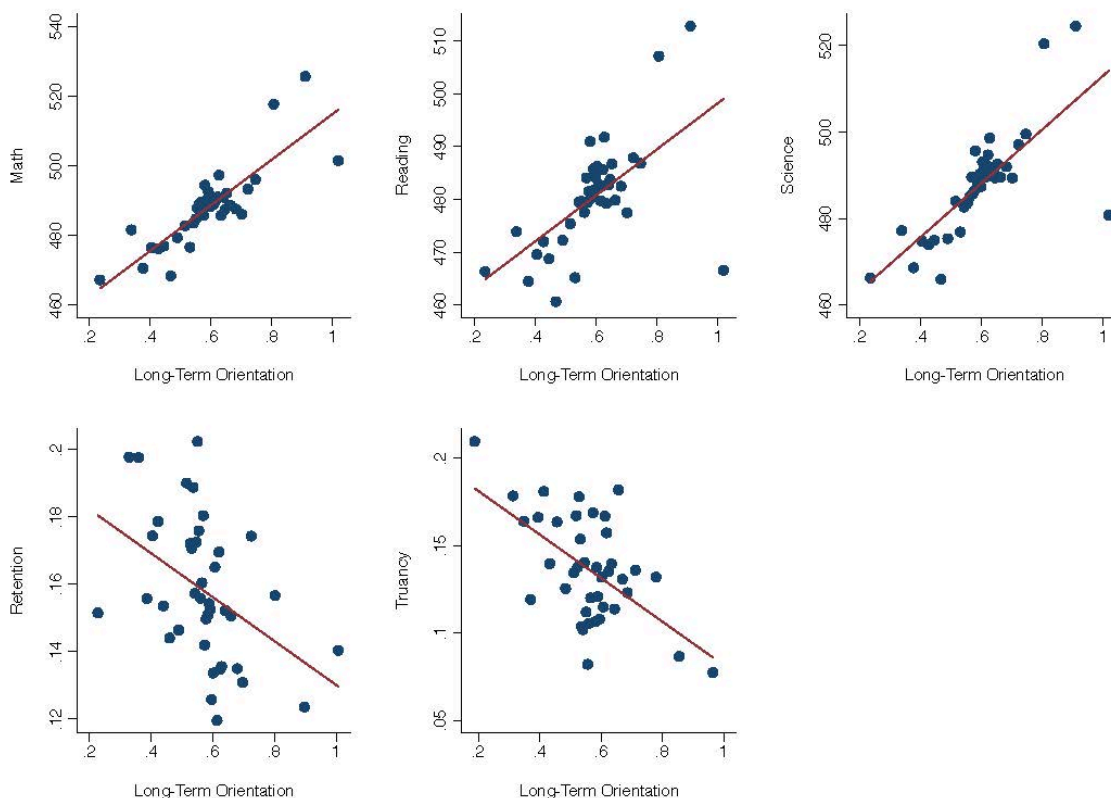
Note: Plots of various educational outcomes averaged by first-generation immigrants groups and LTO in PISA. Educational outcomes variables are described in Section 8.

Figure A9
Long-Term Orientation and educational outcomes, raw correlations, PISA
Second generation immigrants (maternal side)



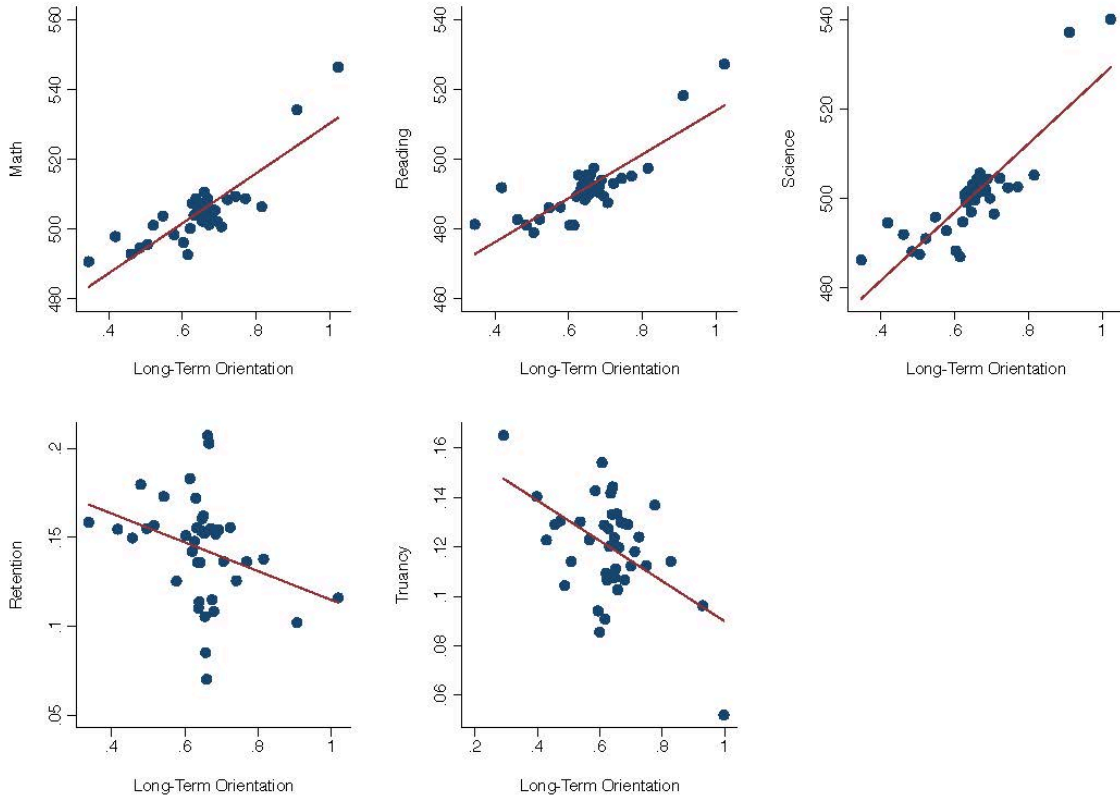
Note: Plots of various educational outcomes averaged by second-generation immigrants groups (defined using maternal place of birth) and LTO in PISA. Educational outcomes variables are described in Section 8.

Figure A10
Long-Term Orientation and educational outcomes, bin-scatters, PISA
First generation immigrants



Note: Binned scatter-plots of the mean of different educational outcomes (described in section 8) for first-generation students versus the mean level of LTO. 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 LTO in each bin (using OLS regressions on the microdata).

Figure A11
Long-Term Orientation and educational outcomes, bin-scatters, PISA
Second generation immigrants (maternal side)



Note: Binned scatter-plots of the mean of different educational outcomes (described in Section 8) for second-generation students (using the place of birth of the mother) versus the mean level of LTO. 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 LTO in each bin (using OLS regressions on the microdata).

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