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# Time Use and Skills Development in Latin American Households

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**Abstract**[*]

Using several sources of micro level data for Latin America and the Caribbean, this paper documents an important positive socio-economic gradient on parental and individual time investments in activities related to developing children's skills. Higher-educated/income parents spend more time with children on both educational and recreational activities, especially when they are young. There are also gender differences in parental time investments. Parents spend more time with boys engaging in recreational activities than with girls, and spend slightly more time with girls on educational childcare. Regarding children's time allocation, boys spend more time on recreational activities than girls do, while girls spend more time on educational activities outside school than boys do. These results are in line with those observed in high-income countries.

**JEL classifications:** I24, J13
**Keywords:** Education, Skills, Time investment, Gender

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# 1. Introduction

Economic research has shown that skill gaps between individuals across socioeconomic groups open up at early ages for both cognitive and noncognitive skills (Heckman, 2013; Schady et al., 2015). The literature suggests that a key mechanism explaining this phenomenon is that parents in wealthier households invest more in their children's skills (Leibowitz, 1974). For instance, Guryan, Hurst and Kearney et al. (2008) and Sayer, Gauthier and Furstenberg (2004) show that in developed countries richer and high-educated parents spend more time with their children, which may be important if parental time spent with children—basically in educational activities—matters for early cognitive development (Hill and Stafford, 1974; Leibowitz, 1974; Del Boca, Flinn and Wiswall, 2014). Thus, differences in parental time investments could generate inequalities during childhood with long-term impacts on adult outcomes, perpetuating inequality by reducing intergenerational mobility.

In spite of the importance of parental time investments on developing children's skills, in Latin America and the Caribbean little is known about how parents spend time with their children, and whether these parental investments differ from those observed in developed countries. The first aim of this paper is to contribute to fill this knowledge gap by analyzing parental time investments from different surveys that include information for many Latin American countries, some of those also including data for developed countries. We use harmonized surveys in order to make appropriate cross-country comparisons.

The second aim of this paper is to study individuals' time investments in their own skills development, focusing on children. We analyze the amount of time children spend in activities directly related to learning, in particular on time spent outside formal educational institutions. We also analyze time spent on recreational activities such as playing sports and playing with friends, among others. As well as for the case of parental investments, in this part of the project we also compare key characteristics of time use of children in Latin America to those in other regions of the world.

The purpose of this project is to describe the type and amount of time investments in skills development in the region. We analyze different databases, with information about individuals' time use, covering several Latin American countries as well as developed countries (see Section 3 for a more detailed description of data sources), and we compare the amount of time individuals spend on different activities that are related to developing skills of children. The

comparison is undertaken within countries, analyzing individuals in different group categories, and across countries.

The rest of this document is organized as follows. Section 2 discusses the definitions of basic concepts and the methodology used. Section 3 describes the databases analyzed. Section 4 presents the results, and Section 5 concludes.

## 2. Definitions and Methodology

We can categorize parental time investments in children (childcare) into three groups: basic child care, educational child care, and recreational child care.[1] In this paper we focus on the latter two categories. Educational childcare includes time spent reading to children, teaching children, helping children with homework, attending meetings at the child's school, and similar activities; and recreational childcare includes playing games with children, playing outdoors with children, attending child's sporting event or dance recital, etc. (Guryan, Hurst and Kearney, 2008).

To study the amount of time parents spend on activities that are directly connected to child's skill development we mainly use data from the Programme for International Student Assessment (PISA) and from the Regional Comparative and Explanatory Study (TERCE). For some countries outside Latin America (from now on non-LAC countries) we also analyze parental time investments using time use surveys (MTUS) and we compare time investments in high income countries and LAC countries using the estimations presented in the work of Torres and Agüero (2017).

We study whether the amount and type of time parents spend with their children varies according to parents' education, particularly mothers'. We also examine how parental time investments are associated to other socio-economic variables (e.g., family structure), whether there are differences between urban and rural areas. Finally, we also study the allocation of parental time according to child's characteristics, such as gender.

For the second main objective of this project, i.e., individuals' time investments for developing their own skills, we also analyze differences across countries, as well as across

[1] "Basic child care is time spent on the basic needs of children, including breastfeeding, rocking a child to sleep, general feeding, changing diapers, providing medical care (either directly or indirectly), grooming, and so on. Time spent preparing a child's meal is included in general meal preparation, a component of nonmarket production." Guryan et al. (2008)

individual's gender, household structure, urban/rural regions, and other socioeconomic characteristics.

For both analyses, the one related to parental time investments and the one studying individuals' time investments, we first present the analysis of the time spent on educational activities and then the time spent on recreational activities.

### *2.1 Econometric Specification*

Our main specification is the following:

$$Y_{i,s,c} = \alpha + \beta_1\, girl_{i,s,c} + \beta_2\, Highly\ educated\ mother_{i,s,c} + X'_{i,s,c}\delta + \pi_c + \varphi_s + \varepsilon_{i,s,c} \qquad (1)$$

where the outcome is a variable related to parental time investments or to individuals' time investments, of student *i*, in school *s*, living in country *c*. The variable "girl" takes the value 1 for females, and 0 otherwise. The variable "highly educated mother" indicates whether the mother of student *i* has more than secondary education. Vector *X* includes a set of student's socio-demographic characteristics, an indicator of whether the individual lives with both parents, and another for urban areas. Last, $\pi_c$ are country fixed effects and $\varphi_s$ are school fixed effects.

The regressions presented in this report use, generally, data from TERCE (see the next section for a more detailed description of this data). Results using such data are presented in several tables, each one containing four columns: column 1 shows the results for the sample of 3rd graders and does not control for schools fixed effects; column 2 is for 3rd graders and includes schools fixed effects; and columns 3 and 4 are for 6th graders without and with schools fixed effects.[2] In addition, we also present results using data coming from PISA and MTUS in a number of tables and figures in Section 4.

We also show results of derived from the following regression (equation (2)), which replaces, from the equation 1, the variable "education of the mother" with indicators of the socio-economic status of the family

[2] Similar results are found after running the following specification, that includes father's education and parents' working status:

$$Y_{i,s,c} = \alpha + \beta_1\, girl_{i,s,c} + \beta_2\, Highly\ educated\ mother_{i,s,c} + \beta_3\, Highly\ educated\ father_{i,s,c} + \beta_4\, Working\ mother_{i,s,c} + \beta_5\, Working\ father_{i,s,c} + X'_{i,s,c}\delta + \pi_c + \varphi_s + \varepsilon_{i,s,c}$$

$$Y_{i,s,c} = \alpha + \beta_1 girl_{i,s,c} + \sum_{q=2}^{4} \beta_q income\ quartile_{i,s,c} + X'_{i,s,c}\delta + \pi_c + \varphi_s + \varepsilon_{i,s,c} \qquad (2)$$

The estimates of $\beta_q$ from this second model are presented in figures instead on tables, and complete regression results are available upon request.

## 3. Data

We use data from three different surveys with information regarding parental time investments in children and individuals' time investments in own skills development. These surveys are:

**A. Programme for International Student Assessment 2012 (PISA)**

- 8 Latin American countries and a large set of developed countries.

**B. Regional Comparative and Explanatory Study**

- 15 Latin American countries.

**C. Time Use Surveys (MTUS)**

- Multinational Time Use Study (MTUS), which does not cover Latin American countries.

### *3.1 Programme for International Student Assessment (PISA)*

The Programme for International Student Assessment (PISA) is an international survey that tests the skills and knowledge of 15-year-old students. In this report, the data from PISA is mainly used to analyze the amount of time parents spend helping their children with homework and the amount of time students spend doing homework, and to study how those vary according to household and child's characteristics. According to the OECD (2014), time spent doing homework and the quality of it are important inputs to the technology of skill formation, because they help students to better learn the material covered in class, by ensuring that it is understood and stored in students' long-term memory.

This information is available for a large set of countries, including 8 Latin American countries in the year 2012 (Argentina, Brazil, Chile, Colombia, Costa Rica, Mexico, Peru and Uruguay). The survey has information on relevant socio-economic characteristics, as an index of economic, social and cultural status, parents' education, and student's gender.

Table 1 shows some questions we include in our analysis. They provide information about the number of hours students spend each week on homework, but also about the frequency

with which parents discuss with their children how well they are doing at school, whether parents spend time just talking to their children, etc. In the regression analysis, the outcome variables related to parental time investments are dummies indicating whether parents report doing these activities every day or almost every day.

| Table 1. Program for International Student Assessment (PISA) |
|---|
| **Student's questionnaire** |
| How many hours do you spend each week on homework or other study set by your teachers? |
| How many hours do you spend each week on study with a parent or other family member? |
| **Parent's questionnaire** |
| How often do you or someone else in your home do the following things with your child?<br>Discuss how well my child is doing at school<br>Eat with my child around a table<br>Spend time just talking to my child<br>Help my child with his/her mathematics homework<br>Discuss how my child is performing in mathematics class<br>Obtain mathematics materials (e.g., applications, software, study guides, etc.) for my child<br>Discuss with my child how mathematics can be applied in everyday life |

Summary statistics of the sample analyzed are presented in Table A.1, in the Appendix. In LAC countries, 48 percent of students aged 15 and attending school have mothers who at least completed secondary education. This proportion is larger in high income countries, where around 72 percent of students have mothers with completed secondary education. In LAC, students reported doing homework at home for 4.3 hours weekly, 1.1 hours less than students living in high income countries. Two LAC countries, Chile and Mexico, also include information on parental involvement in children's education. In these two countries, 34 percent of parents reported investing time in helping children with their homework at least once a week, and 64 percent reported talking frequently with their children about their wellbeing at school (compared to only 19 percent and 50 percent of parents, respectively, in OECD countries with information on these topics). However, parents report talking with their children more frequently in high income countries than in Chile and Mexico. Finally, Appendix Table A.1 shows the scores obtained in the Math and Language tests of PISA. Students in the analyzed sample who are living in LAC countries are around 100 PISA score points below students from high income OECD countries (405 vs. 503 in Mathematics and 422 vs. 511 in Reading).

### *3.2 Regional Comparative and Explanatory Study*

The Regional Comparative and Explanatory Study is a learning achievements study in primary education conducted by the Latin American Laboratory for Assessment of the Quality of Education. The first Regional Comparative and Explanatory Study (PERCE) was carried out in 1997, the second (SERCE) in 2006, and the third (TERCE) in 2013.

This report uses data from the most recent survey, TERCE, in which 15 countries participated (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic and Uruguay, and the Mexican state of Nuevo León). The study measures learning achievements in mathematics and language (reading and writing skills) in third grade students, and the same subjects plus natural sciences in sixth grade students (UNESCO, 2014). It also has information about schools, student and household characteristics. Table 2 lists some of the questions from this survey that we analyze.

| **Table 2. Regional Comparative and Explanatory Study<br>Student's questionnaire** | |
|---|---|
| **TERCE** | |
| 3º primary | How many days a week do you do homework at home? |
| | Do your dad and mom ask you if you did the homework? |
| | What do you do in your free time? (list of activities). |
| 6º primary | In general, how many days a week do you study or do homework for school at home? |
| | Overall, how many hours per day do you spend studying or doing homework? |
| | Do your parents ask you if you did the homework? |
| | When you are not in class, what do you do with your free time? (list of activities) |
| **Regional Comparative and Explanatory Study<br>Family's questionnaire** | |
| **TERCE** | |
| 3º and 6º primary | In general, how many days a week the child studies at home? |
| | Overall, how many hours a day the child dedicates to study at home? |
| | How often in your family do you do this type of activities? (list of activities) |
| | How often the student did not go to the school in the last six months? |
| | How often do you perform the following activities? E.g., I assure that the student has done all the homework. |

The outcomes variables included in the analysis of the data from TERCE are usually dummies indicating whether the individual (children or parent) frequently does those activities.

Appendix Tables A.2, A.3 and A.4 show the summary statistics of the variables analyzed in this report. In this sample, almost 50 percent of students reported that their mothers completed secondary education, and around the same proportion lives with both parents at home. Almost 80 percent of the sample of students lives in urban areas. There is a large proportion of students reporting that their parents help them with their homework when they need it (94 percent of students in 3rd grade, and 87 percent of students in 6th grade). Around 70 percent of students report doing at least 30 minutes of homework every day, and around 25 percent were absent from school more than 2 days in the last month. For more details about these statistics, see Appendix Tables A.2, A.3 and A.4.

### *3.3 Multinational Time Use Study*

The Multinational Time Use Study (MTUS) is a cross-nationally harmonized set of time use surveys composed of comparably recoded variables (MTUS, 2015). This is the most comprehensive data archives of international time use studies (harmonized time use surveys), however it covers mainly developed countries. In our analysis we use surveys conducted after 2001, which means that we analyze information for 9 developed countries (Germany, Italy, Netherlands, Norway, Republic of Korea, Slovenia, Spain, United Kingdom and United States).

All diary questionnaires included in MTUS ask individuals to report their activities throughout the 24 hours of the day. The database includes aggregated time-use variables (total time spent in a set of activities) as well as demographic and socio-economic information about respondents and their households.[3] A nice feature of these nine surveys is that they also have information about the time use of individuals younger than 18, although only Italy covers children below 10 years old.

This data will allow us to analyze for high income countries the patterns of parental time investments and the time children spend on activities related to skills development. The aim is to make the analysis in such a way that could be comparable to the results presented, for the case of LAC countries, in Torres and Agüero (2017). It is important to note that although the cross-country analysis of the number of hours spent on specific activities must still be taken with caution, the comparison between Torres and Agüero (2017) and our results can shed light on

[3] See Fisher, Gershuny and Gauthier (2015).

between countries comparisons of within country differences in time use among socio-economic groups, child's gender, etc.[4]

Using the MTUS database we analyze the time children spend on different activities: time spent on homework; on general sports or physical exercise; reading; going to the cinema, theatre, opera, concerts; receiving or visiting friends; watching TV, video, DVD, and time spent on computer games. We also study the time mothers and fathers spend on childcare, including basic, educational and recreational childcare. In this context, basic care includes physical, medical, supervisory and routine child care. Educational and recreational childcare includes activities such as playing/playing sports with, reading/talking to child, help with homework.

Appendix Tables A.5 and A.6 show the mean number of hours mothers and fathers spend on childcare activities. In all developed countries under study, more educated parents (mothers and fathers) spend more time in basic, education and recreational activities than less educated parents. For instance, highly educated Spanish mothers spend 12.7 hours every week on childcare (9.5 hours in basic care and 3.2 hours in educational and recreational activities), while less educated mothers spend 8.4 hours per week on these activities (6.8 and 1.6 hours, respectively).

## 4. Results

### *4.1. Parental Childcare*

#### *4.1.1 Educational Childcare*

**Parents Helping Children with Their Homework**

Results presented in Table 3 show that children living in households with more educated mothers (i.e., mothers with completed secondary education) tend to receive more help with their homework—from parents or other members of the household—than children living in households with less educated mothers (i.e., with less than secondary education). More precisely,

[4] The main challenge in the harmonization of Latin American time use surveys to make them comparable to those of developed countries arises because of differences in modes of collecting time-use information, which are stark between developed and Latin American countries –and which also vary between Latin American countries themselves. We can classify these methods into three groups: (a) direct observation; (b) survey research, and (c) time diaries. The most common method employed to collect time use data in Latin America is survey research with stylized questions, while most developed countries use time diaries. Another relevant difference exists on the reference periods of time that these surveys cover. Half of the time use surveys in Latin American countries use a recall of the previous day's activities, and the other half ask about activities during the last week; while surveys included in the MTUS mainly focus on activities of the previous day. Thus, the number and nature of activities vary across countries and surveys, which makes very challenging cross-country comparisons.

the probability that someone at home helps the child with his homework is around 4 percentage points higher in households with highly educated mothers. A similar pattern is observed in households where both parents live together. Children of these households are between 2 percentage points more likely to receive help with their homework relative to those living in single parent households (higher correlation for students in grade 6). All these differences are statistically significant.

Students in urban areas also receive more help at home with their homework than students in rural areas, although the estimated parameter is not statistically significant in the sample of students in the 6th grade when we control for school fixed effects. Related to age, younger children, those in 3rd grade, receive slightly more help with their homework than children in 6th grade. Finally, there are no gender differences in the probability that students receive help at home with their homework, except in the sample of students in 6th grade, where girls seems to receive to some extent less help (-1.1 percentage points).

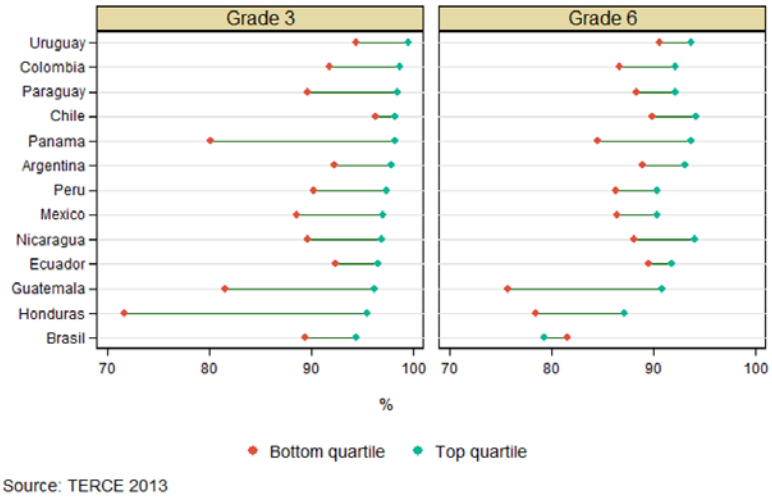
**Table 3. Parents Help Children with Their Homework (Yes=1, No=0)**

| | (1) Grade 3 | (2) Grade 3 | (3) Grade 6 | (4) Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.041*** | 0.036*** | 0.051*** | 0.048*** |
| | (0.007) | (0.006) | (0.010) | (0.009) |
| Both parents at home | 0.012** | 0.010* | 0.027*** | 0.028*** |
| | (0.006) | (0.006) | (0.006) | (0.005) |
| Urban | 0.035*** | 0.047*** | 0.006 | 0.002 |
| | (0.009) | (0.011) | (0.007) | (0.010) |
| Girl | -0.000 | 0.001 | -0.011* | -0.011** |
| | (0.005) | (0.005) | (0.006) | (0.004) |
| Constant | 0.885*** | 0.896*** | 0.835*** | 0.868*** |
| | (0.011) | (0.012) | (0.008) | (0.008) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 33,040 | 33,040 | 36,187 | 36,187 |
| R-squared | 0.021 | 0.067 | 0.024 | 0.051 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

Figure 1 shows that children living in households with a higher economic, social and cultural status are more likely to receive help at home with their homework, on all countries included in TERCE, a result that is in line with those presented in the previous table showing that children receive more help with homework in households with more educated parents. Figure 1 compares the percentage of parents frequently helping their children with homework in the sample of students from the bottom quartile of the index of economic, social and cultural status (red dots) and in the sample of those in the top quartile of this index (green dots). Although this gap is present in all analyzed countries, the difference between students in the top and bottom of the ESCS distribution is higher in Honduras, Panama and Guatemala.

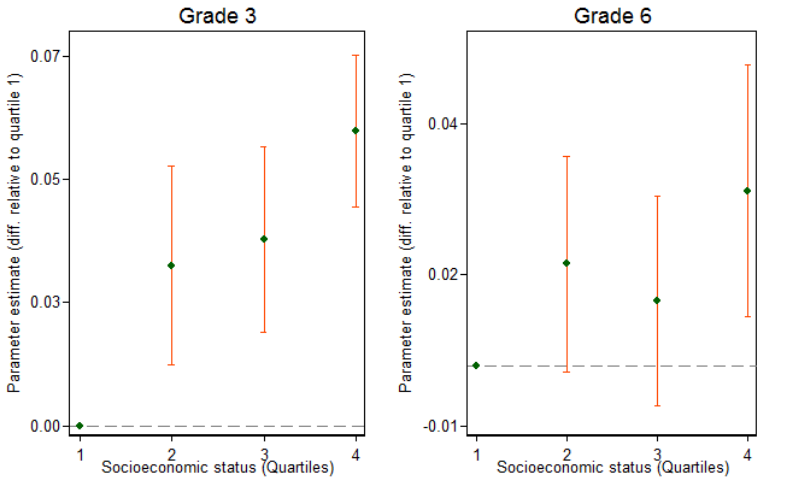
**Figure 1. Percentage of Parents Helping Their Children with Homework**




Source: TERCE 2013

Figure 2 shows similar results of Figure 1, but for the pooled sample of countries. The estimated parameters in this figure come from running equation (2) for the sample of students in grades 3 and 6 included in TERCE. The probability that someone at home helps the child with his homework is higher in households belonging to the top quartile of the index of economic, social and cultural status than in households from the bottom quartile of this index, with a steeper socioeconomic gradient for the younger students.

**Figure 2. Parents Help Their Children with Homework**




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls. Standard errors clustered at the sampling units of each country survey. 95% CI.

Analyzing the answers of students aged 15 included in PISA 2012, in LAC countries we find again a positive educational gradient on the probability that parents help their children with their homework (Table 4). This correlation seems to be higher in LAC countries, than in OECD countries (9 percentage points vs. 3 percentage points).

**Table 4. Parents Help Children with Their Homework: Students Aged 15 (PISA)**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Parents help child with homework at least once a week | | | |
| | LAC | LAC | OECD | OECD |
| High educated mother | 0.061*** | 0.090*** | 0.025*** | 0.033*** |
| | (0.009) | (0.010) | (0.006) | (0.006) |
| Both parents at home | 0.038*** | 0.049*** | 0.018** | 0.023** |
| | (0.009) | (0.009) | (0.009) | (0.009) |
| Girl | -0.015** | -0.007 | 0.001 | 0.004 |
| | (0.007) | (0.007) | (0.005) | (0.006) |
| Constant | 0.298*** | 0.277*** | 0.160*** | 0.275*** |
| | (0.009) | (0.009) | (0.009) | (0.013) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 31,676 | 31,676 | 44,954 | 44,954 |
| R-squared | 0.005 | 0.079 | 0.034 | 0.078 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.

*Note*: Sample of OECD countries excludes Chile and Mexico. The countries analyzed are those that completed the parents' questionnaire (Chile, Mexico and six other OECD countries). All regressions also control for country fixed effects and regressions in even columns also control for school fixed effects. Standard errors clustered at school level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

**Parental Supervision**

An index of parental supervision was constructed using information provided by parents about the actions they usually take related to supervising students' activities at home and at school. This index measures the frequency at which parents ask their children about the activities they do at school, about their homework or their grades. By construction, the average of this index is equal to 0 and its standard deviation is 1. Table 5 shows the results of running equation 1 using this index of parental supervision as the dependent variable.

**Table 5. Parental Supervision (index, mean=0, SD=1)**

| | (1) Grade 3 | (2) Grade 3 | (3) Grade 6 | (4) Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.321*** | 0.272*** | 0.289*** | 0.248*** |
| | (0.025) | (0.024) | (0.016) | (0.016) |
| Both parents at home | 0.112*** | 0.100*** | 0.148*** | 0.138*** |
| | (0.021) | (0.020) | (0.017) | (0.017) |
| Urban | 0.248*** | 0.280*** | 0.144*** | 0.238*** |
| | (0.039) | (0.039) | (0.019) | (0.040) |
| Girl | 0.035** | 0.042*** | -0.019 | -0.016 |
| | (0.015) | (0.014) | (0.012) | (0.013) |
| Constant | -0.513*** | -0.110*** | -0.471*** | -0.202*** |
| | (0.045) | (0.041) | (0.020) | (0.041) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 36,815 | 36,815 | 39,542 | 39,542 |
| R-squared | 0.084 | 0.123 | 0.094 | 0.127 |

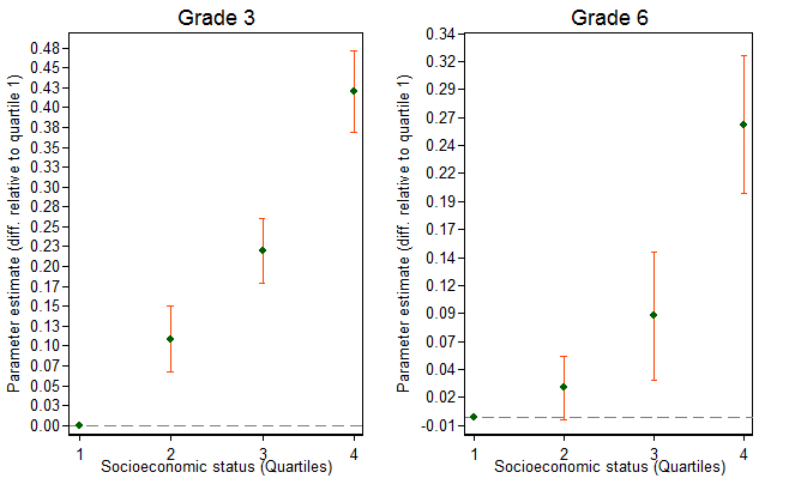
*Source:* Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note:* All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

Again, children in households with more educated mothers tend to receive more supervision from their parents than children living in households with less educated mothers (around +0.27 SD and +0.25 SD, after controlling for school fixed effects, for 3rd graders and 6th graders, respectively). In the same way, children living with both parents receive more supervision that children with single-parent households (around +0.1 SD, after controlling for school FE). Parents in urban areas also report supervising their children more frequently than

parents in rural areas (around +0.2 SD). Gender differences are observed for the younger children, where the estimated parameter for girls is +0.04 SD.

Figure 3 shows an important and positive gradient in parental supervision for the case of socio-economic and cultural status (e.g. the association in the case of belonging to the top quartile of the index vs. belonging to the bottom quartile is +0.43 SD for 3rd graders and +0.27 SD for 6th graders).

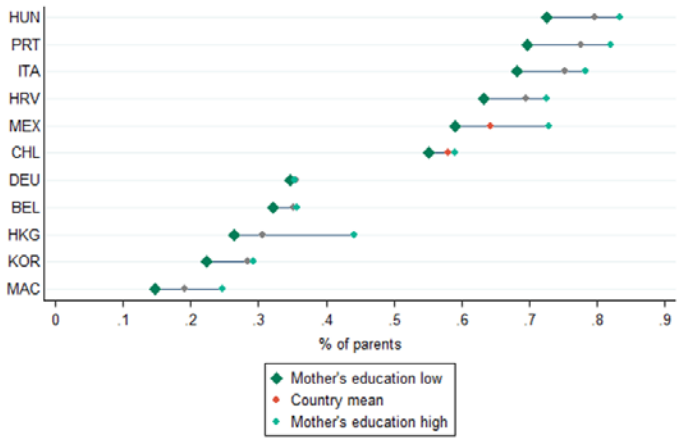
**Figure 3. Parental Supervision**




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

A similar result, a positive educational gradient on the probability that parents discuss with their children how well there are doing at school, is observed in the sample of students aged 15, analyzed in PISA 2012. Figure 4 shows that, in all the countries with information available, highly educated mothers are more likely to spend time discussing with their children their performance at school.

**Figure 4. Percentage of Parents Discussing with Their Children How Well They Are Doing at School, Every Day or Almost Every Day, PISA 2012**




*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.

Chile and Mexico are the two Latin American countries that collected information about this activity. Parents of these countries are less likely to do this activity with their children than parents in Hungary (HUN), Portugal (PRT), Italy (ITA) and Croatia (HRV); and they are more likely to do it than parents in Germany (DEU), Belgica (BEL), Hong Kong-China (HKG), Korea (KOR) and Macao-China (MAC).

Results presented in Table 6 show that the correlation between maternal education and the probability that everyday parents discuss with their children how well there are doing at school is higher in Chile and Mexico, than in the high income countries included in the sample (7.6 percentage points vs. 4.5 percentage points). The probability of discussing with their parents how well there are doing at school is also higher for girls, however in this case the degree is association is larger in the high income OECD countries (+1.5 percentage points vs. +4.3 percentage points).

**Table 6. Parental Supervision, Students Aged 15 (PISA)**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Everyday parents spent time talking about child's wellbeing at school | | | |
| | LAC | LAC | OECD | OECD |
| High educated mother | 0.115*** | 0.076*** | 0.049*** | 0.045*** |
| | (0.008) | (0.009) | (0.008) | (0.008) |
| Both parents at home | 0.050*** | 0.045*** | 0.036*** | 0.032*** |
| | (0.009) | (0.010) | (0.011) | (0.012) |
| Girl | 0.019*** | 0.015** | 0.043*** | 0.043*** |
| | (0.007) | (0.007) | (0.007) | (0.008) |
| Constant | 0.558*** | 0.581*** | 0.422*** | 0.716*** |
| | (0.009) | (0.009) | (0.012) | (0.014) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 32,119 | 32,119 | 45,194 | 45,194 |
| R-squared | 0.015 | 0.106 | 0.200 | 0.234 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.
*Note*: Sample of OECD countries excludes Chile and Mexico. The countries analyzed are those that completed the parents' questionnaire (Chile, Mexico and six other OECD countries). All regressions also control for country fixed effects and regressions in even columns also control for school fixed effects. Standard errors clustered at school level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

**Parents Reading with Children and Discussing the News with Them**

Reading for and with children and commenting the news with them, are activities associated to children's skill development (Price, 2012; Kalb and van Ours, 2013). In this section we analyze the frequency at which parents read and comment news with their children.

Table 7 shows that there is a significant positive gradient for mother's education in the case of reading to entertain children, and this gradient is steeper for 3rd graders. More precisely, for students in the 3rd grade, the probability that parents read for their children in order to entertain them is around 4.5 percentage points higher in households with more educated mothers, and this association is 2.9 percentage points in the case of 6th graders.

The probability of parents reading for their children as an entertainment decreases with child's age. For children in the 3rd grade, living with both parents or in an urban area increases the probability that their parents read for them as a way of entertaining them. For the youngest, there is also a slightly positive association between the gender of the children and the probability

of parents reading to them. Parents of girls in 3rd grade read to them more than parents of boys (+1 percentage point).

**Table 7. Parents Read to Their Children to Entertain Them**

| VARIABLES | (1<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.055*** | 0.045*** | 0.021* | 0.029** |
| | (0.007) | (0.009) | (0.012) | (0.013) |
| Both parents at home | 0.023** | 0.021** | -0.001 | 0.002 |
| | (0.009) | (0.009) | (0.014) | (0.015) |
| Urban | 0.029** | 0.039*** | 0.004 | -0.000 |
| | (0.014) | (0.015) | (0.010) | (0.012) |
| Girl | 0.012 | 0.014* | 0.012 | 0.009 |
| | (0.008) | (0.008) | (0.009) | (0.008) |
| Constant | 0.754*** | 0.738*** | 0.723*** | 0.685*** |
| | (0.018) | (0.016) | (0.014) | (0.016) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 27,581 | 27,581 | 32,187 | 32,187 |
| R-squared | 0.013 | 0.055 | 0.007 | 0.035 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

A similar pattern is observed in the case of analyzing the probability that parents read books or magazines with their children (Table 8). Children of households with more educated mothers are 4-5 percentage points more involved in reading activities with their parents. Two interesting patterns appear in the case of urban areas and girls. Older students from urban areas are less likely to read with parents than younger students of rural regions. On the other hand, in the case of younger students, those in the 3rd grade, parents read more with their girls than with their boys (+2 percentage points). Finally, the probability of reading with the child decreases with child's age.

**Table 8. Parents Read Books or Magazines with Their Children**

| | (1) Grade 3 | (2) Grade 3 | (3) Grade 6 | (4) Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.045*** | 0.042*** | 0.046*** | 0.050*** |
| | (0.008) | (0.009) | (0.009) | (0.009) |
| Both parents at home | -0.002 | -0.004 | 0.028*** | 0.030*** |
| | (0.006) | (0.004) | (0.008) | (0.007) |
| Urban | -0.003 | 0.005 | -0.063*** | -0.058*** |
| | (0.013) | (0.014) | (0.011) | (0.013) |
| Girl | 0.021*** | 0.022*** | 0.002 | 0.001 |
| | (0.007) | (0.007) | (0.009) | (0.008) |
| Constant | 0.805*** | 0.791*** | 0.738*** | 0.725*** |
| | (0.014) | (0.017) | (0.012) | (0.012) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 31,744 | 31,744 | 35,648 | 35,648 |
| R-squared | 0.009 | 0.045 | 0.022 | 0.050 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

The positive educational gradient is also present in the case of parents discussing news with their children, however the parameter estimates are not statistically significant (Table 9). Living with both parents or in urban areas significantly increases the probability of discussing news with parents. There are not important gender differences in this case. Finally, as is expected, child's age increases the probability of discussing news with parents.

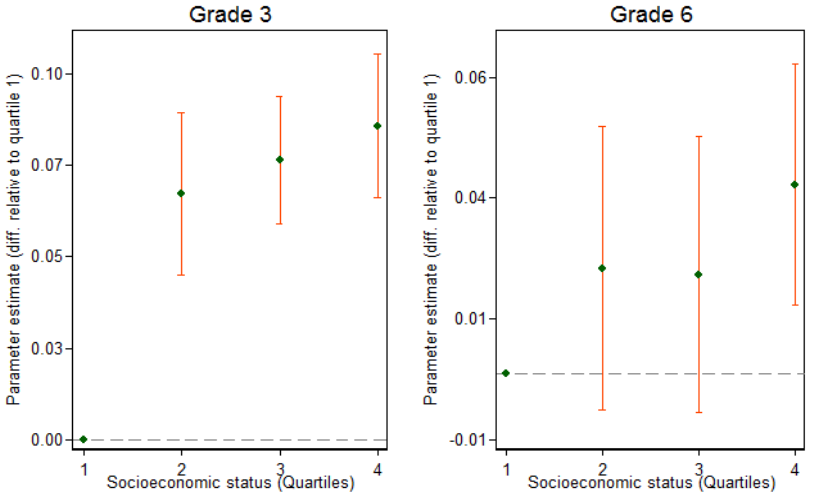
There is a relevant positive gradient for the case of socio-economic and cultural status (Figure 5). For students in the 3rd grade, belonging to the top quartile of the respective index increases by 8 percentage points the probability that children frequently discuss news with their parents, relative to the case of children belonging to the bottom quartile of this index. This number is smaller in the case of students in the 6th grade (+4 percentage points).

## Table 9. Parents Discuss News with Children

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.024** | 0.020 | 0.013 | 0.010 |
| | (0.012) | (0.013) | (0.017) | (0.017) |
| Both parents at home | 0.030*** | 0.028*** | 0.030*** | 0.031*** |
| | (0.007) | (0.006) | (0.005) | (0.005) |
| Urban | 0.055*** | 0.051*** | 0.042*** | 0.040** |
| | (0.015) | (0.015) | (0.015) | (0.016) |
| Girl | 0.007 | 0.009* | 0.000 | 0.001 |
| | (0.005) | (0.005) | (0.005) | (0.004) |
| Constant | 0.779*** | 0.795*** | 0.819*** | 0.857*** |
| | (0.016) | (0.016) | (0.014) | (0.014) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 30,675 | 30,675 | 35,354 | 35,354 |
| R-squared | 0.027 | 0.073 | 0.019 | 0.062 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

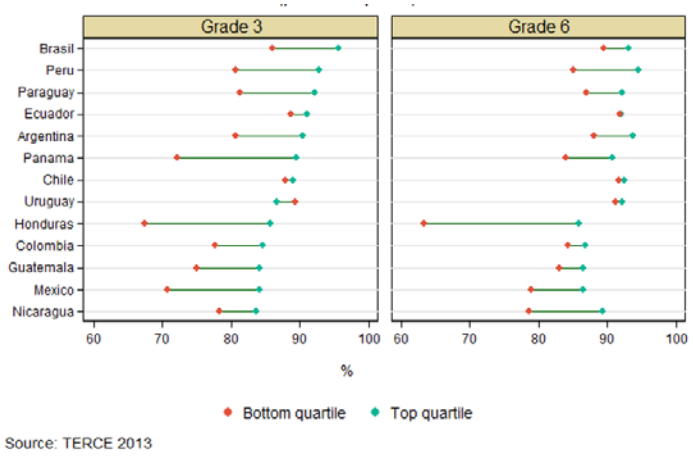
## Figure 5. Parents Discuss News with Children




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

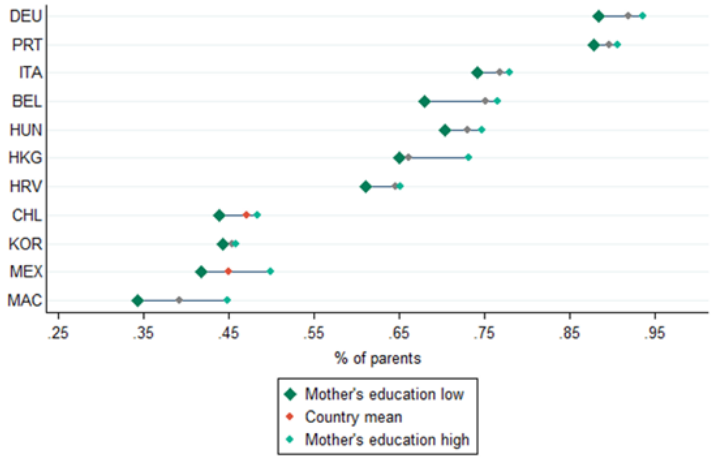
Figure 6 shows that this positive socio-economic gradient is present in almost all Latin American countries included in the study, with the exceptions of Chile and Uruguay.

**Figure 6. Parents Discuss News with Children, Analysis by Country**




A further result in line with those presented in this section is the one observed when, using data from PISA 2012, we analyze the probability that parents spend time just talking to their children who are 15 years old. Figure 7 shows that households with more educated mothers are more likely to have parents that spend time just talking with their children, a pattern presented in all countries that included this question in the survey to parents. Parents in Chile and Mexico, the two Latin American countries included in this sample, are much less likely to spend time just talking to their children than parents in Germany (DEU), Portugal (PRT), Italy (ITA), Belgium (BEL), Hungary (HUN), Hong Kong-China (HKG) or Croatia (HRV).

**Figure 7. Parents Spending Time Every Day Just Talking to Their Children (PISA)**




*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA), 2012.

Again, the correlation between maternal education and the probability that parents spend time just talking with their children is higher in Chile and Mexico, than in the high income countries analyzed (6.6. percentage points vs. 2.9 percentage points, see Table 10). Parents of girls report talking with girls more than with both (around +4 percentage points), with no significant differences in the degree of this correlation between the LAC countries analyzed and the high income OECD countries.

**Table 10. Parents Spent Time Talking with Children, Students Aged 15 (PISA)**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Everyday parents spent time just talking with children | | | |
| | LAC | LAC | OECD | OECD |
| High educated mother | 0.078*** | 0.066*** | 0.025*** | 0.029*** |
| | (0.009) | (0.010) | (0.007) | (0.007) |
| Both parents at home | 0.011 | 0.005 | 0.017 | 0.015 |
| | (0.010) | (0.010) | (0.010) | (0.010) |
| Girl | 0.042*** | 0.041*** | 0.043*** | 0.032*** |
| | (0.007) | (0.008) | (0.007) | (0.006) |
| Constant | 0.402*** | 0.409*** | 0.658*** | 0.855*** |
| | (0.010) | (0.009) | (0.011) | (0.013) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 31,952 | 31,952 | 45,176 | 45,176 |
| R-squared | 0.007 | 0.078 | 0.169 | 0.200 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.
*Note*: Sample of OECD countries excludes Chile and Mexico. The countries analyzed are those that completed the parents' questionnaire (Chile, Mexico and other 6 OECD countries). All regressions also control for country fixed effects and regressions in even columns also control for school fixed effects. Standard errors clustered at school level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

### *4.1.2 Recreational Childcare*

**Playing Sports and Playing Games with Children**

Physical exercising can be relevant for children's skill development. Playing sports positively affects health status, which could improve productivity and also could lead to higher investments in human capital because of higher life expectancy. Sport also positively affects non-cognitive skills like leadership, teamwork, socialization and some behavioral habits like motivation, discipline and responsibility, among others (Cornelißen and Pfeifer, 2010). Therefore, analyzing time spent playing sports is relevant for understanding children's skills formation.

We start this section by analyzing the probability of children playing sports with parents. Table 11 shows that for this activity there is, again, an important positive gradient on mother's education. Thus, the probability that children play sports with their parents is around 7 percentage points higher in households with higher educated mothers in the sample of 3$^{rd}$ graders, and 4.5 percentage points higher in the case of 6$^{th}$ graders. This probability is also higher in households where both parents live together, and in urban areas. The probability of playing sports with parents decreases as a child gets older.

More interesting, there is a significant gender difference in the probability that parents do sports with their children: girls are around 4 percentage points less likely to do sport with their parents, all else equal.

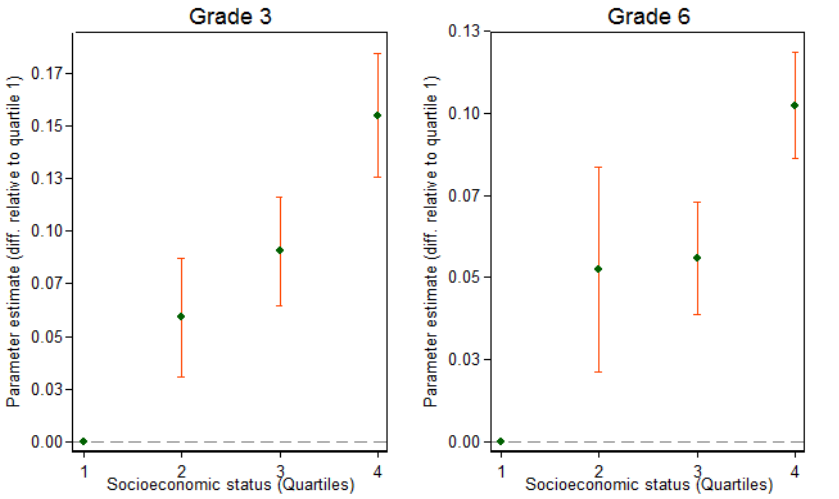
**Table 11. Parents Play Sports with Their Children**

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.090*** | 0.068*** | 0.054*** | 0.045*** |
| | (0.009) | (0.010) | (0.010) | (0.011) |
| Both parents at home | 0.042*** | 0.039*** | 0.054*** | 0.053*** |
| | (0.007) | (0.007) | (0.007) | (0.005) |
| Urban | 0.037*** | 0.032** | 0.019 | 0.038* |
| | (0.014) | (0.016) | (0.014) | (0.022) |
| Girl | -0.047*** | -0.050*** | -0.038*** | -0.038*** |
| | (0.009) | (0.009) | (0.010) | (0.009) |
| Constant | 0.614*** | 0.514*** | 0.581*** | 0.468*** |
| | (0.016) | (0.020) | (0.015) | (0.027) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 30,296 | 30,296 | 34,807 | 34,807 |
| R-squared | 0.039 | 0.083 | 0.035 | 0.067 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

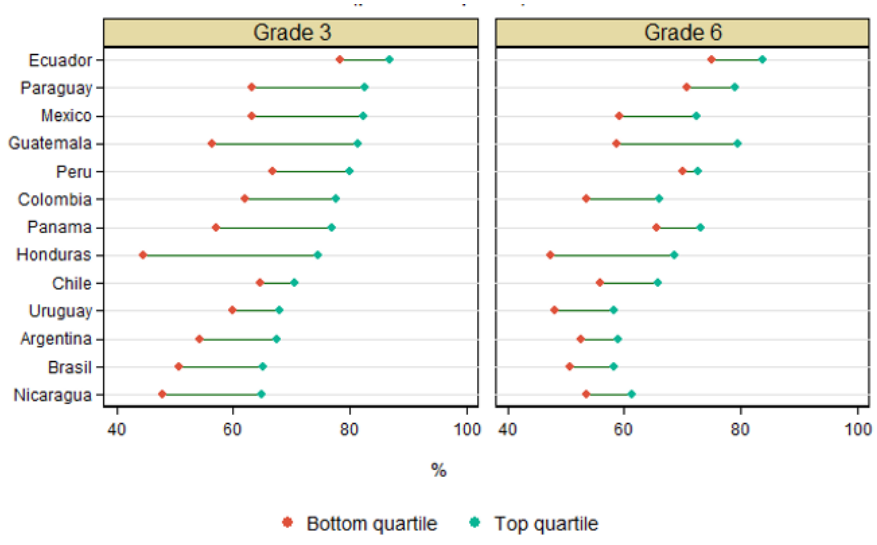
As shown in Figures 8 and 9, the difference in the probability of playing sports with parents is present between socio-economic groups, and in all Latin American countries included in the analysis. The higher the index of socio-economic and cultural status, the higher is the probability of parents playing sports with their children.

**Figure 8. Parents Play Sports with Children**




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

**Figure 9. Parents Play Sports with Children, Analysis by Country**




Source: TERCE 2013

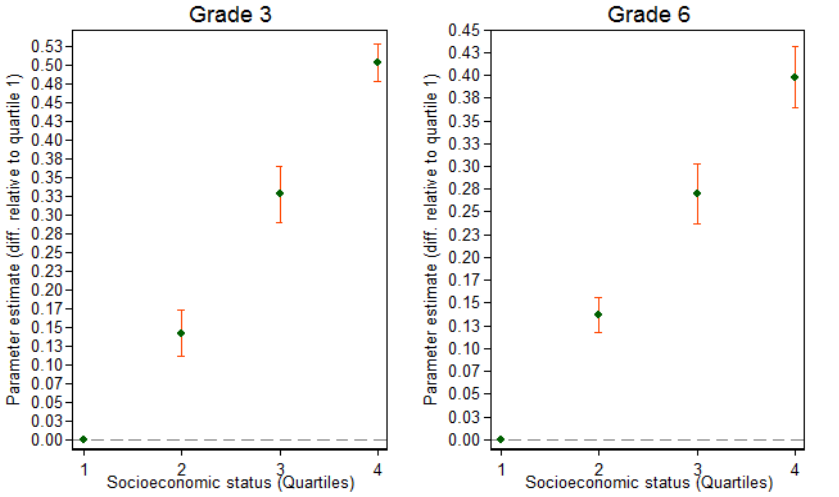
Very similar results are found when we analyze the probability that parents play electronic games with their children (Table 12). In this case, the socio-economic gradient is more pronounced (Figure 10), and the gender gap is also larger: girls are 7-9 percentage points less likely to spend time playing electronic games with their parents than boys.

## Table 12. Parents Play Electronic Games with Their Children

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.222*** | 0.170*** | 0.167*** | 0.132*** |
| | (0.013) | (0.014) | (0.017) | (0.017) |
| Both parents at home | 0.044*** | 0.031** | 0.029*** | 0.023*** |
| | (0.015) | (0.013) | (0.008) | (0.009) |
| Urban | 0.211*** | 0.241*** | 0.179*** | 0.200*** |
| | (0.017) | (0.013) | (0.017) | (0.024) |
| Girl | -0.090*** | -0.092*** | -0.080*** | -0.074*** |
| | (0.025) | (0.025) | (0.017) | (0.013) |
| Constant | 0.236*** | 0.341*** | 0.260*** | 0.323*** |
| | (0.024) | (0.023) | (0.020) | (0.023) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 29,514 | 29,514 | 34,217 | 34,217 |
| R-squared | 0.164 | 0.212 | 0.094 | 0.130 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

## Figure 10. Parents Play Electronic Games with Child




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

**Going to the Cinema and Searching the Web with Parents**

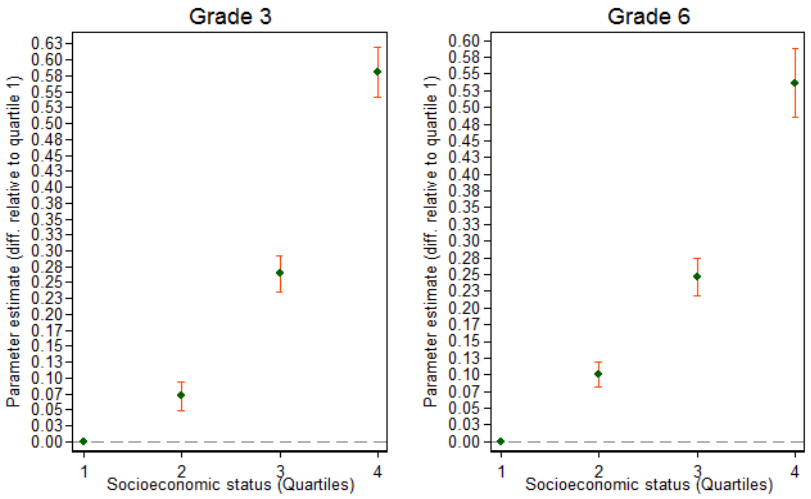
The positive gradient on mother's education is also present in other activities, as going to the cinema with parents or searching the web with parents (Tables 13 and Table 14). These activities are also more frequently done with parents in urban areas and in households with both parents living together. There are no gender differences in these two cases.

**Table 13. Parents Go to the Cinema with Their Children**

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.325*** | 0.222*** | 0.305*** | 0.226*** |
| | (0.024) | (0.012) | (0.026) | (0.012) |
| Both parents at home | 0.030*** | 0.006 | 0.016* | 0.003 |
| | (0.009) | (0.005) | (0.009) | (0.007) |
| Urban | 0.224*** | 0.268*** | 0.223*** | 0.325*** |
| | (0.024) | (0.025) | (0.029) | (0.039) |
| Girl | -0.022 | -0.019 | -0.015 | -0.006 |
| | (0.016) | (0.016) | (0.013) | (0.012) |
| Constant | 0.052** | 0.089** | 0.068** | 0.028 |
| | (0.022) | (0.035) | (0.027) | (0.038) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 29,017 | 29,017 | 33,807 | 33,807 |
| R-squared | 0.185 | 0.298 | 0.165 | 0.252 |

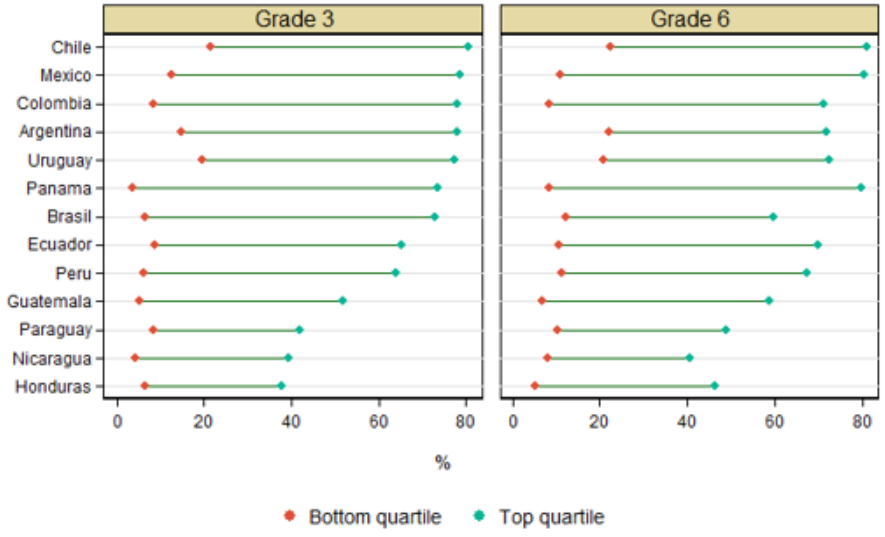
*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

## Figure 11. Parents Go to the Cinema with Their Children




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

## Figure 12. Parents Go to the Cinema with Their Children, Analysis by Country



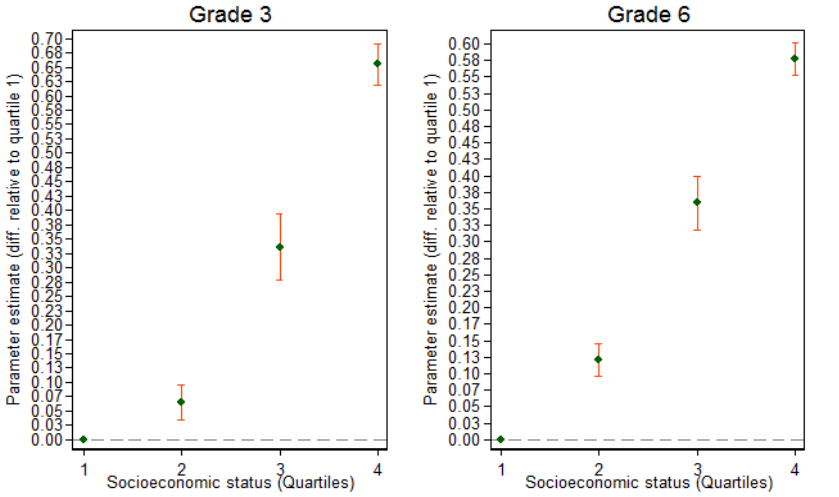

Source: TERCE 2013

## Table 14. Parents Search the Web with Their Children

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.319*** | 0.242*** | 0.285*** | 0.244*** |
| | (0.024) | (0.018) | (0.016) | (0.011) |
| Both parents at home | 0.050*** | 0.035*** | 0.023** | 0.016** |
| | (0.012) | (0.009) | (0.009) | (0.008) |
| Urban | 0.243*** | 0.278*** | 0.236*** | 0.250*** |
| | (0.024) | (0.023) | (0.020) | (0.023) |
| Girl | -0.008 | -0.008 | -0.019 | -0.012 |
| | (0.007) | (0.007) | (0.012) | (0.011) |
| Constant | 0.050*** | 0.078*** | 0.120*** | 0.138*** |
| | (0.016) | (0.025) | (0.018) | (0.022) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 29,408 | 29,408 | 34,224 | 34,224 |
| R-squared | 0.210 | 0.273 | 0.166 | 0.206 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

## Figure 13. Parents Search the Web with Their Children




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

*4.1.3. International Comparison on Parental Investments: Analysis of Time Use Surveys of High Income Countries*

In this section we present a brief review of some patterns of parental investments that we obtained by analyzing time use surveys from high income countries. We analyze information regarding total childcare for four high income countries (Netherlands, Republic of Korea, Spain and United States), and information about basic childcare for nine high income countries (Germany, Italy, Netherlands, Norway, Republic of Korea, Slovenia, Spain, United Kingdom and United States). Basic care includes physical, medical, supervisory and routine child care; educational and recreational childcare includes activities as playing/playing sports with, reading/talking to child, helping with homework.

**Table 15. Child Care (daily minutes) in High Income Countries**

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| | Total childcare | | Basic childcare | | Educational and recreational childcare | |
| | Female | Male | Female | Male | Female | Male |
| Youngest child: age 0-4 | 133.544*** | 56.210*** | 97.726*** | 39.030*** | 45.900*** | 29.149*** |
| | (2.777) | (2.163) | (1.768) | (1.167) | (1.586) | (1.520) |
| Youngest child: age 5-12 | 41.956*** | 16.021*** | 29.315*** | 12.782*** | 20.924*** | 10.206*** |
| | (1.672) | (1.194) | (1.050) | (0.711) | (1.024) | (0.787) |
| High educated (Secondary or more) | 19.077*** | 5.000* | 9.289*** | 4.737*** | 8.014*** | 2.205 |
| | (2.604) | (3.033) | (1.624) | (1.405) | (1.577) | (2.125) |
| # child aged<18 in hhold | 6.538*** | 2.514** | 6.661*** | 1.090** | 0.913 | -0.463 |
| | (1.332) | (1.022) | (0.790) | (0.549) | (0.867) | (0.638) |
| Age | -1.566** | -0.608 | -3.114*** | -0.585 | -0.181 | -0.285 |
| | (0.746) | (0.795) | (0.458) | (0.368) | (0.494) | (0.636) |
| Age squared | 0.000 | 0.001 | 0.018*** | 0.002 | -0.003 | 0.001 |
| | (0.008) | (0.008) | (0.005) | (0.004) | (0.005) | (0.006) |
| Constant | 64.911*** | 25.664 | 99.912*** | 22.397** | 12.093 | 12.705 |
| | (18.148) | (21.904) | (10.983) | (9.384) | (12.231) | (18.064) |
| Observations | 14,827 | 13,775 | 28,880 | 27,041 | 14,827 | 13,775 |
| R-squared | 0.311 | 0.177 | 0.282 | 0.142 | 0.133 | 0.098 |

*Source*: Authors' calculations based on data from the Multinational Time Use Study.
*Note*: Total childcare includes basic, educational and recreational childcare. Basic care includes physical, medical, supervisory and routine child care. Educational and recreational childcare include activities as play/sports with, read/talk to child, help with homework. In the case of basic care, the sample includes married individuals in 9 high income countries (Germany, Italy, Netherlands, Norway, Republic of Korea, Slovenia, Spain, United Kingdom and United States), in the other cases Germany, Italy, Norway, Slovenia and UK are excluded of the sample for reasons of data availability. All regressions include country fixed effects. Robust standard errors are in parentheses.
*** p<0.01, ** p<0.05, * p<0.1.

The sample analyzed includes married parents, with at least one child younger than 17. The patterns are similar to those presented before, for LAC countries: Table 15 shows that more educated mothers spend more time (+9.3 minutes per day) on basic childcare and also spend more time playing, reading, talking and helping children with homework than less educated mothers (+8 minutes). Time spend on total childcare decreases with the age of the youngest child (in Table 15, the baseline are parents with the youngest child aged 13 to 17). Similar estimates are present in the sample of fathers, and all these results are in line with those presented in Guryan, Hurst and Kearney (2008) for a large set of non-LAC countries.[5]

Table 16 specifically analyzes the time parents spend helping their children with homework, reading, talking or playing with their children, in three high income countries with information disaggregated for these activities (Netherlands, Spain and the United States). Overall, more educated parents spend more time helping their children with homework, as well as reading or playing with them (although in the latter the point estimate is more imprecise). The educational gradient is steeper and statistically significant in the sample of households where the youngest child is between 5 and 12 years old.

Similar to what is shown in Torres and Agüero (2017) for a set of Latin American countries, in these three high income countries time parents spend reading, talking or playing with their children decreases with their age,[6] and time spent helping their children with homework presents an inverted-U shape relative to the age of the youngest child.

[5] Guryan et al. (2008) analysis Austria (1992), Canada (1998– 1999), Chile (1999), Estonia (1999–2000), Italy, (2002–2003), France (1998–1999), Germany (1991–1992), the Netherlands (2000), Norway (1990–1991), Palestine (1999–2000), Slovenia (2000–2001), South Africa (2000), the United Kingdom (2000–2001), and the United States (2003–2006).

[6] The time use data analyzed in this paper (MTUS) does not allow to identify the amount of time each parent spent on each children. As a shortcut, we follow Torres and Agüero (2017) and correlate the amount of time parents spent on different activities with children to the age of the youngest child in the household.

**Table 16. Time Parents Spent Helping Children with Homework, Reading, Talking to or Playing with Children in High Income Countries (daily minutes)**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | Teach or help with homework | | | | Read to, talk or play with child | | | |
| | | Age range of the youngest child | | | | Age range of the youngest child | | |
| | All | 0-4 | 5-12 | 13-17 | All | 0-4 | 5-12 | 13-17 |
| High educated (Secondary or more) | 2.308*** | 0.880 | 4.463*** | 1.784*** | 2.493 | 2.355 | 3.679*** | 0.736 |
| | (0.475) | (0.683) | (0.946) | (0.542) | (1.584) | (4.096) | (1.099) | (0.483) |
| # child aged<18 in hhold | 3.205*** | 3.729*** | 2.550*** | 2.235** | -1.325** | -3.399*** | 0.503 | 1.912*** |
| | (0.433) | (0.499) | (0.922) | (0.898) | (0.586) | (0.968) | (0.613) | (0.657) |
| Age | 0.708*** | 0.487*** | 1.425*** | -0.316 | -0.770 | 0.697 | -0.912** | -0.827 |
| | (0.102) | (0.137) | (0.241) | (0.371) | (0.516) | (0.841) | (0.355) | (0.554) |
| Age squared | -0.008*** | -0.005*** | -0.015*** | 0.002 | 0.005 | -0.013 | 0.007** | 0.008 |
| | (0.001) | (0.002) | (0.002) | (0.003) | (0.005) | (0.009) | (0.003) | (0.005) |
| Mother | 4.988*** | 3.101*** | 7.828*** | 2.997*** | 4.600*** | 8.578*** | 2.495*** | 1.983*** |
| | (0.428) | (0.523) | (0.870) | (0.688) | (0.909) | (1.972) | (0.892) | (0.539) |
| Youngest child: age 0-4 | -0.795 | | | | 33.461*** | | | |
| | (0.604) | | | | (1.277) | | | |
| Youngest child: age 5-12 | 5.556*** | | | | 9.181*** | | | |
| | (0.614) | | | | (0.702) | | | |
| Constant | -25.876*** | -18.571*** | -42.172*** | 4.619 | 21.835 | 25.070 | 31.642*** | 18.151 |
| | (2.819) | (3.074) | (6.716) | (10.085) | (14.208) | (22.005) | (9.097) | (14.795) |
| Observations | 17,796 | 7,268 | 7,170 | 3,358 | 17,796 | 7,268 | 7,170 | 3,358 |
| R-squared | 0.049 | 0.051 | 0.034 | 0.015 | 0.111 | 0.036 | 0.019 | 0.025 |

*Source:* Authors' calculations based on data from the Multinational Time Use Study.
*Note*: The sample includes married individuals in 3 high income countries (Netherlands, Spain and the United States). All regressions include country fixed effects. Robust standard errors are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.)

### *4.2. Individual Time Investments: Sample of Children*

In this section, we analyze individuals' time investments in their own skills development, focusing on children. First, we study the amount of time children spend on educational or learning activities. In particular, we analyze the amount of time children spend doing homework, the probability of usually being absent from school more than twice a month, the frequency of reading and the time spent on the computer for educational purposes. Then, we focus on another set of activities, which are more related to recreation: playing with friends; playing sports;

playing electronic games;[7] searching on the web; watching TV, going to the cinema and time spent on the computer for recreation.

*4.2.1. Educational Activities*

Tables 17-20 show the results of the analyses of time spent doing homework, the probability of usually being absent from school more than twice a month and the frequency of reading.

In time spent on homework (Table 17) and school attendance (Table 19), there is a clear positive gradient on mother's education: in the sample of students analyzed in TERCE, those from households with higher educated mothers spend more time on homework (in the 3rd grade they are 13 percentage points more likely to spend at least 30 minutes a day doing homework, and 5 percentage points more in 6th grade), and are less likely to be absent from school (around -6 percentage points). Children living with both parents also spend more time on homework (+5 percentage points more likely to do homework for more than 30 minutes daily) and less likely to be absent form school (around -4/5 percentage points). Surprisingly, there is not any significant correlation between mother's education and family structure and the time children spend on reading activities.

In the sample of students aged 15, included in the PISA sample (Table 18), we also observe a highly positive correlation between mother's education and time spent doing homework. Interestingly, similar correlations are found in the sample of OECD countries, although the correlation is stronger than in LAC countries.

An important gender difference arises on the amount of time student spent on homework and reading. Girls are much more likely to do homework for more than 30 minutes daily: 6-7 percentage points in the sample analyzed in TERCE, and also in PISA. However, the gender gap on time spent doing homework seems to be smaller in LAC than in many OECD countries, at least in the case of students 15 years old (Table 18 and Figure 17). Table 18 shows that in the OECD girls aged 15 are around 13 percentage points more likely than boys to spend at least 30 minutes a day doing homework, and only 6 percentage points more likely to do so in LAC.

[7] According to the literature, video game playing can improve such cognitive skills as problem solving, abstract reasoning, and spatial logic. Suziedelyte (2015) tests this hypothesis and finds that video game playing is found to positively affect children's problem-solving ability. She shows that the effect of video game playing on problem-solving ability is comparable to the effect of many educational activities.

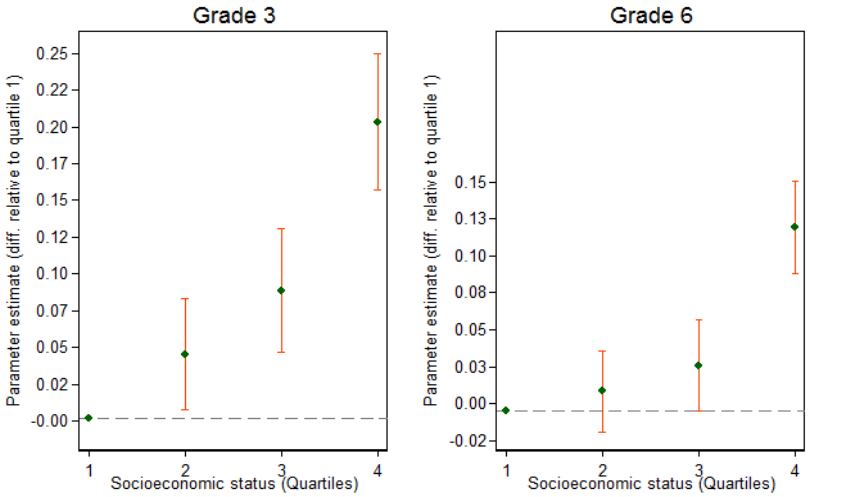
The TERCE data also show that in LAC girls are also more likely to read books or magazines (10 percentage points, Table 20). Using data from time use surveys we analyzed the amount of time children spent reading in some non-LAC countries, and we also find these gender differences (see Figure 19).

**Table 17. Doing Homework for More Than 30 Minutes Daily**

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.160*** | 0.126*** | 0.085*** | 0.054*** |
| | (0.013) | (0.008) | (0.010) | (0.009) |
| Both parents at home | 0.051*** | 0.047*** | 0.069*** | 0.058*** |
| | (0.009) | (0.010) | (0.008) | (0.010) |
| Urban | 0.064*** | 0.076*** | 0.032*** | 0.095*** |
| | (0.010) | (0.016) | (0.008) | (0.016) |
| Girl | 0.052*** | 0.055*** | 0.072*** | 0.072*** |
| | (0.007) | (0.006) | (0.010) | (0.010) |
| Constant | 0.517*** | 0.557*** | 0.558*** | 0.514*** |
| | (0.012) | (0.014) | (0.010) | (0.017) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 36,825 | 36,825 | 39,404 | 39,404 |
| R-squared | 0.073 | 0.119 | 0.054 | 0.088 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

**Figure 14. Probability of Doing Homework for More Than 30 Minutes Daily**



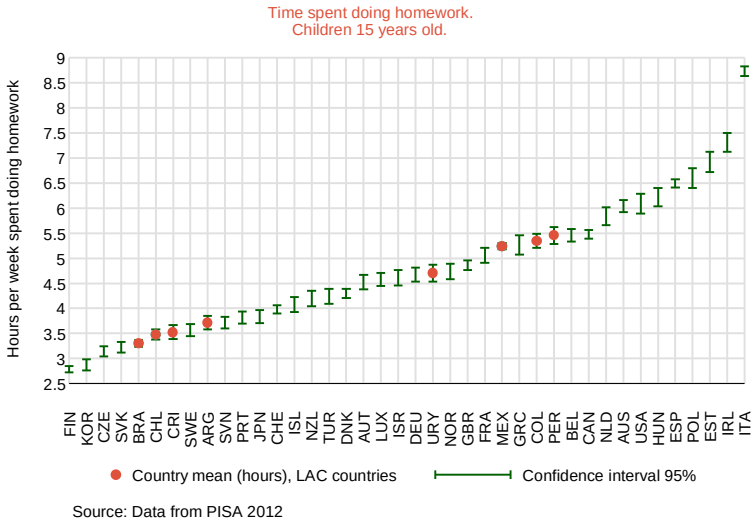

Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

## Table 18. Time Spent Doing Homework, Students Aged 15 (PISA)

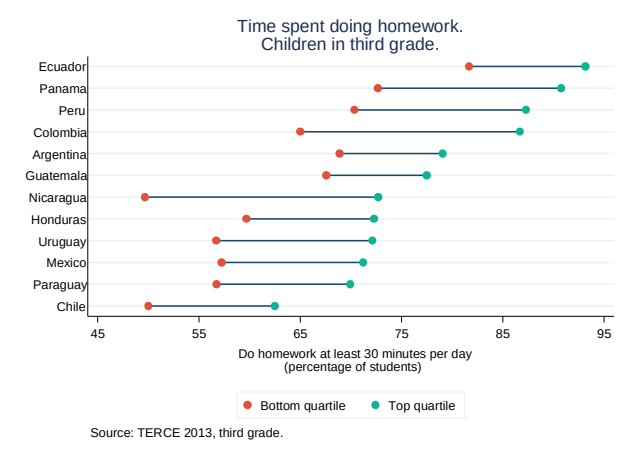
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | Hours spent doing homework (weekly hours) | | | | Do homework for more than 30' daily (weekly average) | | | |
| | LAC | LAC | OECD | OECD | LAC | LAC | OECD | OECD |
| High educated mother | 0.710*** | 0.416*** | 0.990*** | 0.807*** | 0.103*** | 0.060*** | 0.091*** | 0.076*** |
| | (0.081) | (0.082) | (0.098) | (0.087) | (0.009) | (0.009) | (0.008) | (0.007) |
| Both parents at home | 0.291*** | 0.216*** | 0.644*** | 0.547*** | 0.042*** | 0.034*** | 0.051*** | 0.041*** |
| | (0.069) | (0.074) | (0.123) | (0.113) | (0.008) | (0.008) | (0.010) | (0.010) |
| Girl | 0.649*** | 0.605*** | 1.560*** | 1.511*** | 0.070*** | 0.063*** | 0.131*** | 0.128*** |
| | (0.068) | (0.069) | (0.087) | (0.083) | (0.007) | (0.007) | (0.008) | (0.008) |
| Constant | 3.563*** | 3.134*** | 3.675*** | 4.547*** | 0.312*** | 0.273*** | 0.373*** | 0.443*** |
| | (0.072) | (0.152) | (0.111) | (0.150) | (0.008) | (0.016) | (0.011) | (0.014) |
| School fixed effects | NO | YES | NO | YES | NO | YES | NO | YES |
| Observations | 46,748 | 46,748 | 145,352 | 145,352 | 46,748 | 46,748 | 145,352 | 145,352 |
| R-squared | 0.061 | 0.130 | 0.099 | 0.158 | 0.070 | 0.144 | 0.086 | 0.124 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.
*Note*: Sample of OECD countries excludes Chile and Mexico. All regressions also control for country fixed effects and regressions in even columns also control for school fixed effects. Standard errors clustered at school level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

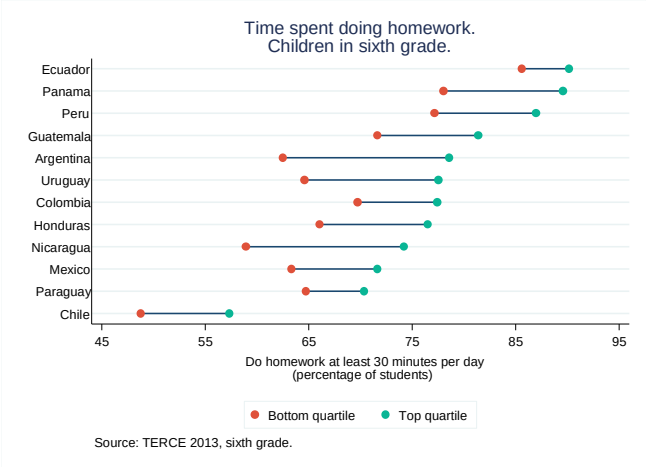
## Figure 15. Time Spent Doing Homework (PISA)



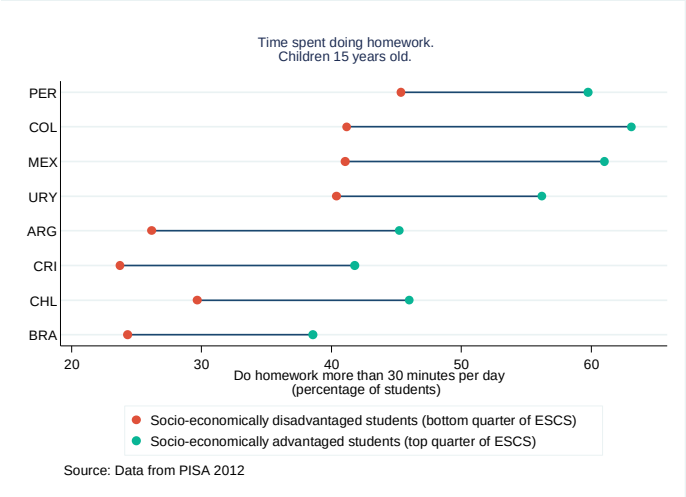
# Figure 16. Time Spent Doing Homework (TERCE and PISA)




Source: TERCE 2013, third grade.

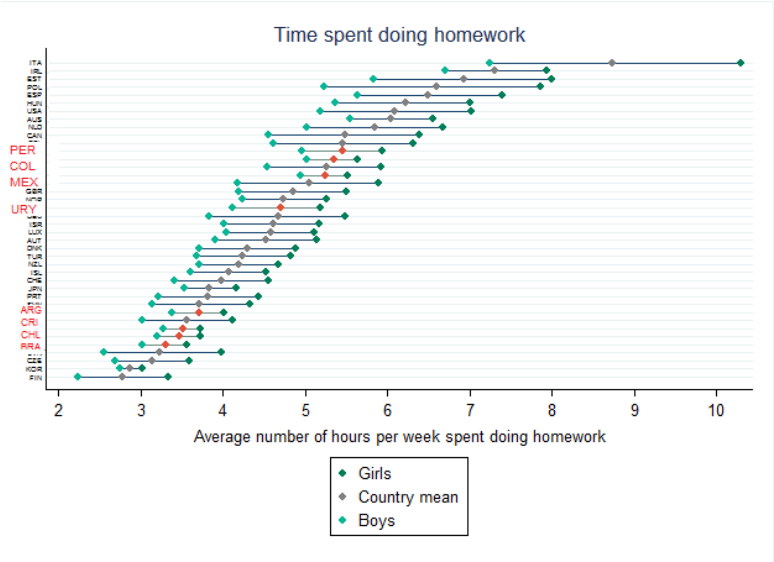



Source: TERCE 2013, sixth grade.




Source: Data from PISA 2012

**Figure 17. Time Spent on Homework (LAC and OECD countries, PISA 2012)**



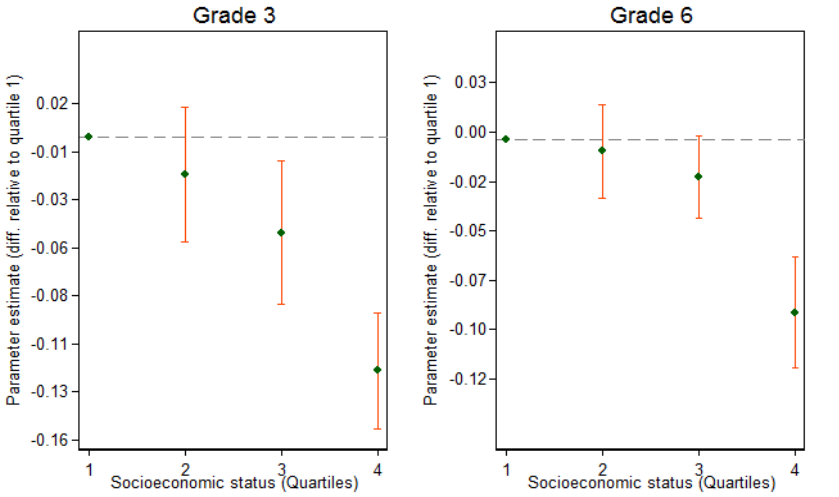

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.

**Table 19. Not in School for More Than 2 Days Monthly**

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | -0.086*** | -0.057*** | -0.072*** | -0.055*** |
| | (0.012) | (0.014) | (0.017) | (0.018) |
| Both parents at home | -0.047*** | -0.039*** | -0.058*** | -0.049*** |
| | (0.009) | (0.009) | (0.006) | (0.006) |
| Urban | 0.053*** | 0.007 | 0.036** | -0.030** |
| | (0.014) | (0.017) | (0.015) | (0.015) |
| Girl | -0.013* | -0.014** | -0.006 | -0.004 |
| | (0.007) | (0.006) | (0.011) | (0.012) |
| Constant | 0.307*** | 0.407*** | 0.284*** | 0.425*** |
| | (0.014) | (0.018) | (0.013) | (0.017) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 35,476 | 35,476 | 38,085 | 38,085 |
| R-squared | 0.038 | 0.083 | 0.050 | 0.086 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

## Figure 18. Not in School +2 Days Monthly



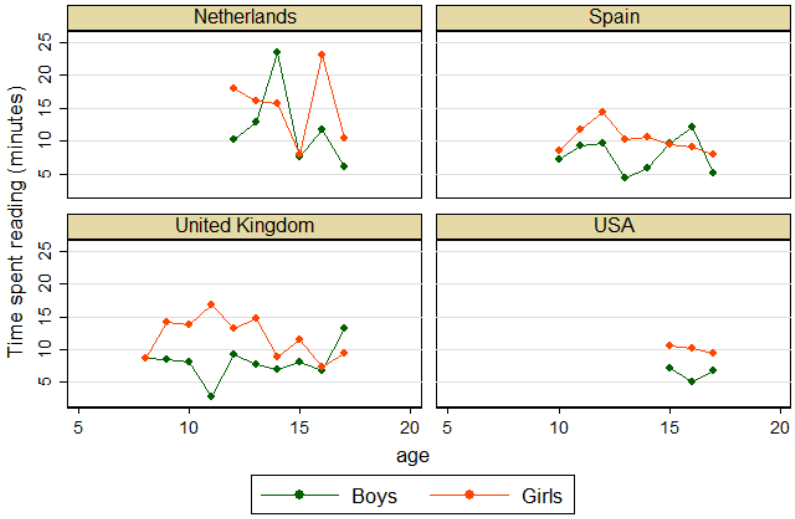

Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

## Table 20. Reading Books and Magazines

| | (1) Grade 3 | (2) Grade 3 | (3) Grade 6 | (4) Grade 6 |
|---|---|---|---|---|
| High educated mother | -0.013 | 0.000 | -0.013 | -0.008 |
| | (0.015) | (0.014) | (0.009) | (0.008) |
| Both parents at home | -0.019 | -0.017 | 0.007 | 0.007 |
| | (0.013) | (0.014) | (0.007) | (0.007) |
| Urban | -0.065*** | -0.065*** | -0.086*** | -0.091*** |
| | (0.020) | (0.017) | (0.010) | (0.011) |
| Girl | 0.101*** | 0.103*** | 0.089*** | 0.088*** |
| | (0.015) | (0.014) | (0.009) | (0.009) |
| Constant | 0.375*** | 0.394*** | 0.234*** | 0.244*** |
| | (0.022) | (0.021) | (0.009) | (0.014) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 34,480 | 34,480 | 36,358 | 36,358 |
| R-squared | 0.028 | 0.068 | 0.046 | 0.075 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

**Figure 19. Time Spent Reading, Non-LAC Countries**
(data from time use surveys)




Source: Time use surveys. Netherlands 2005, Spain 2009, United Kingdom 2000 and USA 2009-2012

Tables 21 and 22 analyze the time children spent using information and communications technology (ICT). In the case of data coming from TERCE, only those students in the 6th grade reported how much time they spend on the computer for different purposes.

Although the number of days that students report to use computers at school is not correlated to mother's education or socio-economic status, there are important differences in the amount of time students of different socio-economic status spend on computers outside of school (Table 21 and Figure 20).

Table 21 shows that there is a clear positive gradient on mother's education in the use of computers out of schools and to do homework or search for information on the Internet. Students in households with higher educated mothers report using the computer outside the school 0.8 days more than students with low educated mothers. The probability that students with highly educated mothers report using the computer to do homework very frequently or using it for searching information is 4 and 6 percentage points higher, respectively, than for those students from households with low educated mothers.

Students in urban areas use the computer for educational purpose much more frequently than those in rural areas (+12 percentage points in the case of using ICT to do homework and 15

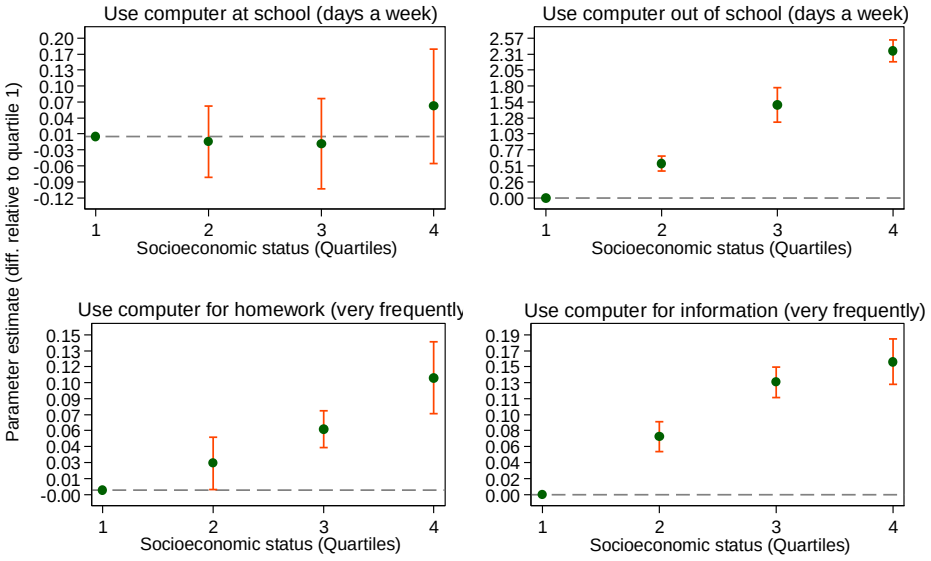
percentage points for searching information related to educational activities).

**Table 21. Time Spent with Computers (students in grade 6)**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| | Use computer at school (days a week) | Use computer out of school (days a week) | | Use computer for homework (very frequently) | | Use computer to find information (very frequently) | |
| High educated mother | 0.077 | 0.999*** | 0.768*** | 0.051*** | 0.038*** | 0.079*** | 0.064*** |
| | (0.069) | (0.086) | (0.055) | (0.013) | (0.009) | (0.010) | (0.009) |
| Both parents at home | -0.114*** | 0.079* | 0.058 | -0.001 | 0.000 | -0.003 | -0.002 |
| | (0.037) | (0.041) | (0.037) | (0.007) | (0.007) | (0.010) | (0.011) |
| Urban | -0.008 | 1.416*** | 1.470*** | 0.131*** | 0.120*** | 0.156*** | 0.154*** |
| | (0.066) | (0.131) | (0.127) | (0.014) | (0.015) | (0.015) | (0.016) |
| Girl | -0.156*** | -0.061 | -0.037 | 0.026** | 0.026** | -0.013 | -0.008 |
| | (0.029) | (0.054) | (0.055) | (0.012) | (0.011) | (0.009) | (0.008) |
| Constant | 1.246*** | 1.736*** | 2.181*** | 0.193*** | 0.097*** | 0.176*** | 0.145*** |
| | (0.078) | (0.122) | (0.121) | (0.011) | (0.019) | (0.017) | (0.023) |
| School fixed effects | NO | NO | YES | NO | YES | NO | YES |
| Observations | 36,538 | 36,700 | 36,700 | 37,532 | 37,532 | 36,280 | 36,280 |
| R-squared | 0.025 | 0.162 | 0.214 | 0.047 | 0.082 | 0.032 | 0.066 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in columns 3, 5, 7 also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1

**Figure 20. Time Spent with Computers (students in grade 6)**




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

Similar results are present in the sample of students aged 15 in LAC countries. In Chile, Costa Rica, Mexico and Uruguay, those students included in the sample of PISA also reported how frequently they use ICT for school-related tasks. An index of ICT use outside school for school-related tasks was constructed. This index, with mean 0 and SD 1, comprises seven items related to the use of computers at home for school related activities. These items include time students spend browsing the Internet for schoolwork, using email for schoolwork, downloading, upload or browse material from my school's website, checking the school's website, doing homework on the computer and the use of ICT for sharing school-related materials with other students.

Table 22 shows that the educational gradient in the use of ICT outside school for school related tasks exists not only in LAC countries but also in the OECD countries, although the gradient is steeper in the set of the LAC countries analyzed here. In LAC, the different in the use of ICT for school related activities between students with highly educated mothers and the others is +0.2 SD, while in the OECD countries these difference is +0.1 SD of the index. Finally, in the OECD girls tend to use more ICT for educational purposes than boys, while no significant gender differences are displayed in LAC for the sample of students aged 15.

**Table 22. Time Spent Using Computers, Students Aged 15 (PISA)**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | ICT use at home for school-related tasks (Index mean=0, SD=1) | | | |
| | LAC | LAC | OECD | OECD |
| High educated mother | 0.433*** | 0.200*** | 0.124*** | 0.114*** |
| | (0.018) | (0.016) | (0.010) | (0.010) |
| Both parents at home | 0.113*** | 0.077*** | 0.107*** | 0.102*** |
| | (0.018) | (0.017) | (0.014) | (0.014) |
| Girl | 0.004 | -0.023 | 0.026*** | 0.025*** |
| | (0.016) | (0.014) | (0.009) | (0.009) |
| Constant | -0.019 | 0.315*** | -0.404*** | -0.041* |
| | (0.025) | (0.046) | (0.016) | (0.025) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 40,301 | 40,301 | 173,522 | 173,522 |
| R-squared | 0.051 | 0.256 | 0.214 | 0.234 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.
*Note*: Sample of OECD countries excludes Chile and Mexico. All regressions also control for country fixed effects and regressions in columns 2 and 4 also control for school fixed effects. Standard errors clustered at school level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The sample "LAC countries" includes Chile, Costa Rica, Mexico and Uruguay.

*4.2.2. Recreational Activities*

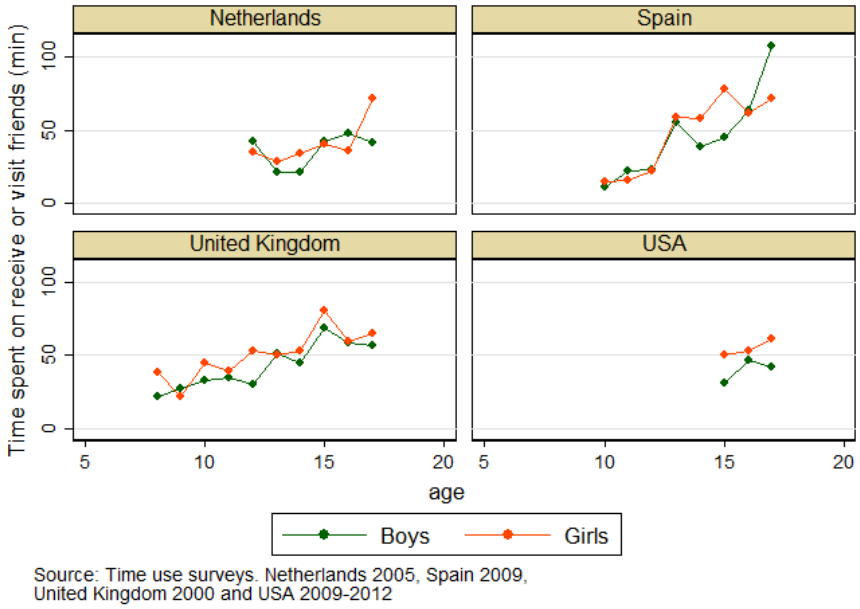
Tables 23, 24 and 25 show the results of the analysis of time spent on recreational activities. We start with the analysis of the frequency at which children report playing with friends. In this case, mother's education is not correlated with the frequency at which children play with friends; likewise, students living with both parents are not more likely to play with friends than other students. However, the gender difference arises again, with girls being less likely to frequently play with friends in their free time (-4 percentage points in the case of 3rd graders and -12.5 percentage points for the 6th graders). This gender difference is not present in the high income countries analyzed in Figure 21. Using time use surveys we analyzed the amount of time girls and boys spend visiting friends or receiving friends at home, and we find that, if something, the amount of time spent with friends (receiving or visiting friends) is higher for girls than for boys.

**Table 23. Playing with Friends**

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | -0.000 | 0.002 | -0.013 | -0.002 |
| | (0.010) | (0.013) | (0.008) | (0.007) |
| Both parents at home | 0.003 | -0.003 | -0.013 | -0.010 |
| | (0.011) | (0.012) | (0.010) | (0.010) |
| Urban | 0.002 | -0.011 | -0.034** | -0.034* |
| | (0.013) | (0.013) | (0.013) | (0.018) |
| Girl | -0.040*** | -0.043*** | -0.124*** | -0.125*** |
| | (0.009) | (0.009) | (0.011) | (0.011) |
| Constant | 0.626*** | 0.707*** | 0.492*** | 0.596*** |
| | (0.012) | (0.017) | (0.014) | (0.019) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 34,545 | 34,545 | 36,608 | 36,608 |
| R-squared | 0.017 | 0.057 | 0.027 | 0.057 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

**Figure 21. Receiving Friends at Home or Visiting Friends, Non-LAC Countries**
(data from time use surveys)




Source: Time use surveys. Netherlands 2005, Spain 2009, United Kingdom 2000 and USA 2009-2012

Girls are also much less likely to report that they do sports frequently (-18 and -26 percentage points for 3rd and 6th graders, respectively). In the case of physical exercise, there is a significant positive gradient on mother's education, and the frequency at which students play sports is higher in urban areas. A very similar pattern is observed in the case of students playing video games. Again, girls from LAC countries are much less likely to spend time on this activity.

These gender differences are also present in non-LAC countries, as shown in Figures 22 and 23. These figures show, using data from time use surveys, that on average boys spend more time than girls on these two activities.

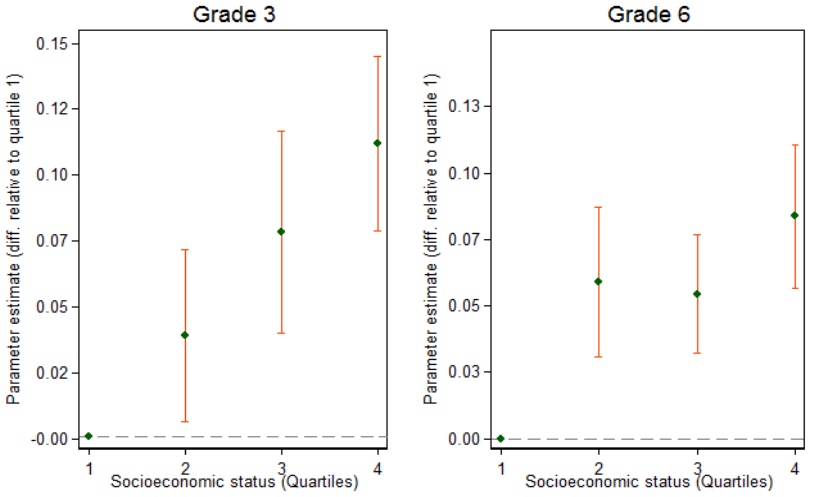
Finally, children from households with higher educated mothers or living in urban areas are much more likely to spend time playing electronic games.

## Table 24. Playing Sports

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.061*** | 0.039*** | 0.030*** | 0.033*** |
| | (0.008) | (0.008) | (0.008) | (0.005) |
| Both parents at home | 0.004 | -0.006 | 0.006 | 0.006 |
| | (0.013) | (0.011) | (0.011) | (0.013) |
| Urban | 0.103*** | 0.102*** | 0.041** | 0.031** |
| | (0.013) | (0.014) | (0.018) | (0.015) |
| Girl | -0.183*** | -0.184*** | -0.263*** | -0.259*** |
| | (0.011) | (0.010) | (0.016) | (0.017) |
| Constant | 0.531*** | 0.568*** | 0.590*** | 0.623*** |
| | (0.016) | (0.021) | (0.020) | (0.020) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 34,501 | 34,501 | 36,543 | 36,543 |
| R-squared | 0.053 | 0.096 | 0.079 | 0.108 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

## Figure 22. Playing Sports




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

**Figure 23. Time Spent Playing Sports, Non-LAC Countries**
(data from time use surveys)

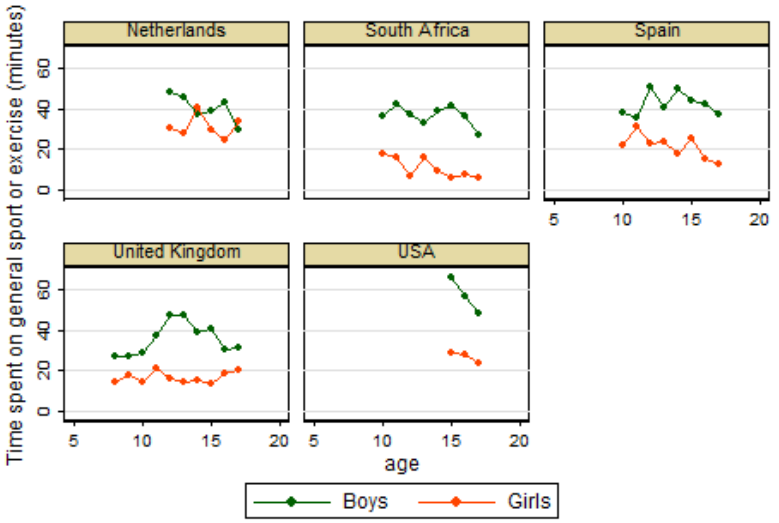
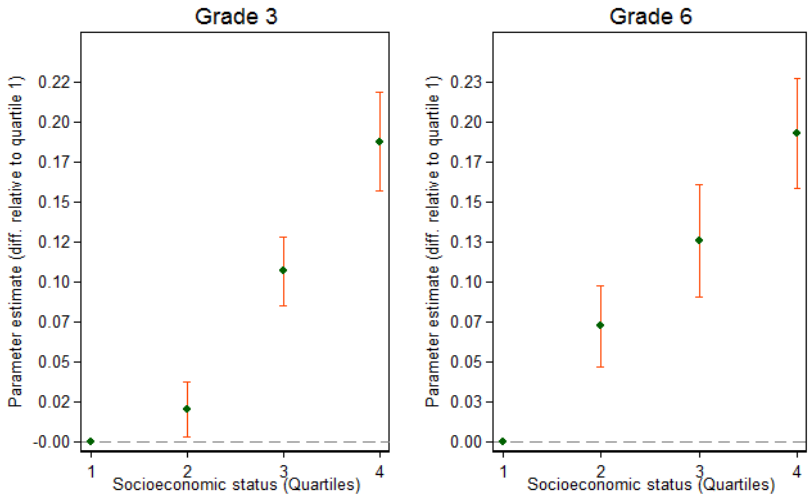



**Table 25. Playing Electronic Games**

| | (1) Grade 3 | (2) Grade 3 | (3) Grade 6 | (4) Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.073*** | 0.042*** | 0.089*** | 0.069*** |
| | (0.009) | (0.010) | (0.009) | (0.007) |
| Both parents at home | 0.012 | 0.003 | 0.011 | 0.009 |
| | (0.008) | (0.008) | (0.009) | (0.008) |
| Urban | 0.117*** | 0.144*** | 0.093*** | 0.102*** |
| | (0.016) | (0.011) | (0.012) | (0.013) |
| Girl | -0.168*** | -0.167*** | -0.173*** | -0.170*** |
| | (0.022) | (0.022) | (0.017) | (0.017) |
| Constant | 0.235*** | 0.320*** | 0.212*** | 0.366*** |
| | (0.018) | (0.013) | (0.012) | (0.020) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 34,607 | 34,607 | 35,901 | 35,901 |
| R-squared | 0.095 | 0.137 | 0.111 | 0.141 |

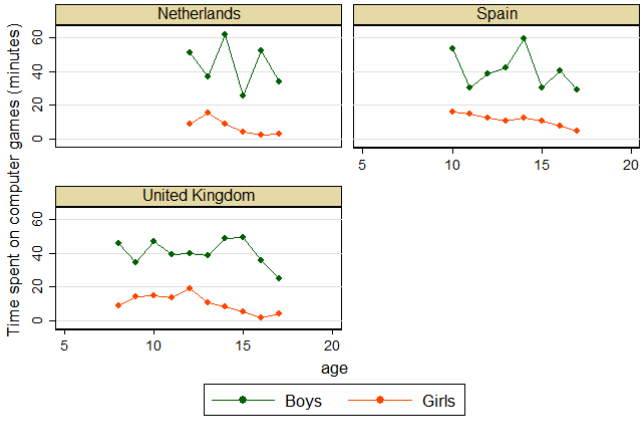
*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

**Figure 24. Playing Electronic Games**




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

**Figure 25. Playing Electronic Games, Developed Countries**
(data from time use surveys)




Source: Time use surveys. Netherlands 2005, South Africa 2000, Spain 2009, United Kingdom 2000 and USA 2009-2012

Girls are also spending less time than boys on watching TV, and they are less likely to go to the cinema and to spend time searching on the web (Tables 26, 27 and 28 respectively).

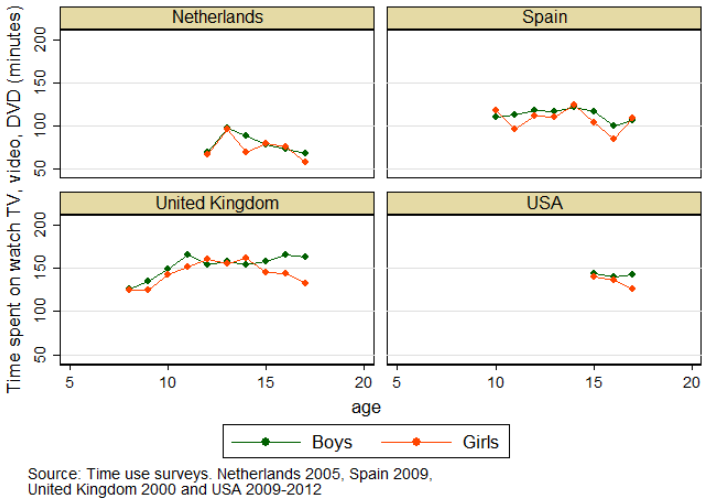
**Table 26. Watching TV**

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.041*** | 0.024 | 0.031*** | 0.027** |
| | (0.012) | (0.015) | (0.012) | (0.011) |
| Both parents at home | 0.010* | 0.006 | 0.015** | 0.015** |
| | (0.006) | (0.005) | (0.008) | (0.006) |
| Urban | 0.078*** | 0.094*** | 0.074*** | 0.073*** |
| | (0.018) | (0.016) | (0.010) | (0.016) |
| Girl | -0.085*** | -0.086*** | -0.027* | -0.025* |
| | (0.015) | (0.013) | (0.016) | (0.014) |
| Constant | 0.349*** | 0.417*** | 0.291*** | 0.379*** |
| | (0.016) | (0.018) | (0.012) | (0.020) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 34,962 | 34,962 | 36,761 | 36,761 |
| R-squared | 0.061 | 0.109 | 0.042 | 0.067 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

Data from time use surveys of high income countries show similar patterns for the case of time spent watching TV, but there is not any gender difference on time spent on going to the cinema, concerts etc.

**Figure 26. Watching TV, Non-LAC Countries**
(data from time use surveys)

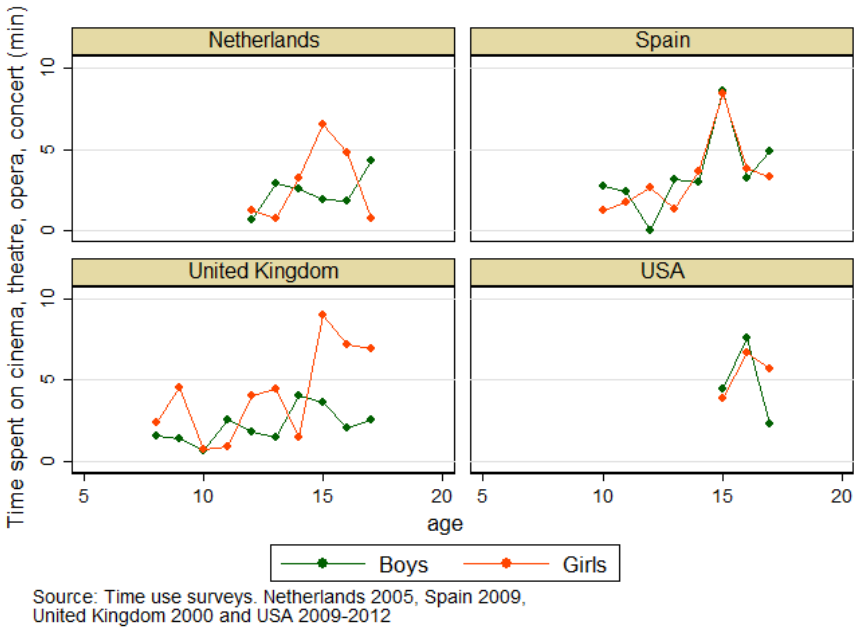


## Table 27. Going to the Cinema

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.027*** | 0.012* | 0.035*** | 0.028*** |
| | (0.009) | (0.007) | (0.008) | (0.010) |
| Both parents at home | -0.023*** | -0.024*** | -0.014*** | -0.014*** |
| | (0.007) | (0.007) | (0.003) | (0.002) |
| Urban | 0.058*** | 0.054*** | 0.027*** | 0.031*** |
| | (0.007) | (0.010) | (0.005) | (0.010) |
| Girl | -0.029*** | -0.027*** | -0.010** | -0.008 |
| | (0.006) | (0.005) | (0.005) | (0.005) |
| Constant | 0.098*** | 0.167*** | 0.043*** | 0.046*** |
| | (0.006) | (0.012) | (0.005) | (0.009) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 34,132 | 34,132 | 35,438 | 35,438 |
| R-squared | 0.017 | 0.055 | 0.011 | 0.039 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

## Figure 27. Going to the Cinema, Non-LAC Countries
(data from time use surveys)

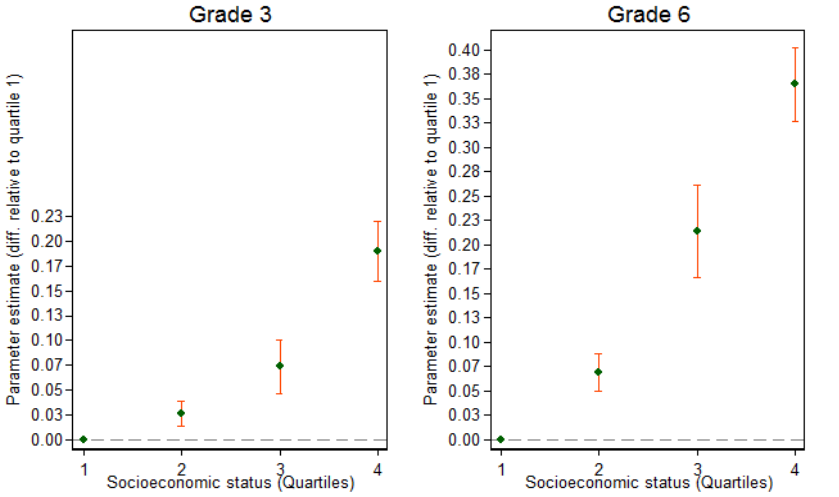


## Table 28. Searching the Web

| | (1)<br>Grade 3 | (2)<br>Grade 3 | (3)<br>Grade 6 | (4)<br>Grade 6 |
|---|---|---|---|---|
| High educated mother | 0.066*** | 0.037*** | 0.153*** | 0.117*** |
| | (0.010) | (0.009) | (0.012) | (0.009) |
| Both parents at home | 0.002 | -0.006 | 0.020 | 0.014 |
| | (0.009) | (0.008) | (0.012) | (0.011) |
| Urban | 0.127*** | 0.151*** | 0.196*** | 0.210*** |
| | (0.012) | (0.013) | (0.020) | (0.017) |
| Girl | -0.056*** | -0.054*** | -0.001 | 0.003 |
| | (0.009) | (0.009) | (0.011) | (0.011) |
| Constant | 0.147*** | 0.157*** | 0.102*** | 0.176*** |
| | (0.012) | (0.014) | (0.019) | (0.030) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 34,313 | 34,313 | 35,634 | 35,634 |
| R-squared | 0.064 | 0.106 | 0.114 | 0.151 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE). *Note*: All regressions include country fixed effects, and regressions in even columns also include school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1.

## Figure 28. Searching the Web




Source: TERCE 2013. Regression includes country fixed effects, an indicator of urban regions, a dummy indicating whether the student lives with both parents, and an indicator for girls.
Standard errors clustered at the sampling units of each country survey. 95% CI.

The educational gradient is also noticeable in the use of computers for entertainment. Tables 29 and 30 show how the time children spend using information and communications technology (ICT) varies with household and student characteristics. The indicators of the intensity of use of ICT for recreational purposes are in the two samples, TERCE and PISA, standardized indexes with mean 0 and SD 1. In TERCE, only 6th graders reported information on the time they spent on ICT.[8]

Table 29 shows that in LAC, the time spent on ICT for recreation is 0.2 SD higher for 6th graders with highly educated mothers relative to students with low-educated mothers. The gradient is even steeper if we compare students in the bottom quartile of the index of socio-economic status to those in the top quartile (see Figure 30). Students in urban areas also report much more time using ICT for recreation than those in rural areas (+0.6 SD).

A similar educational gradient is present in the sample of 15-year-old students, where in the sample of LAC countries included in this analysis the difference on the intensity of ICT use for recreation is 0.4 SD higher for students with highly educated mothers (Table 30). The educational gradient is significantly lower in the OECD.

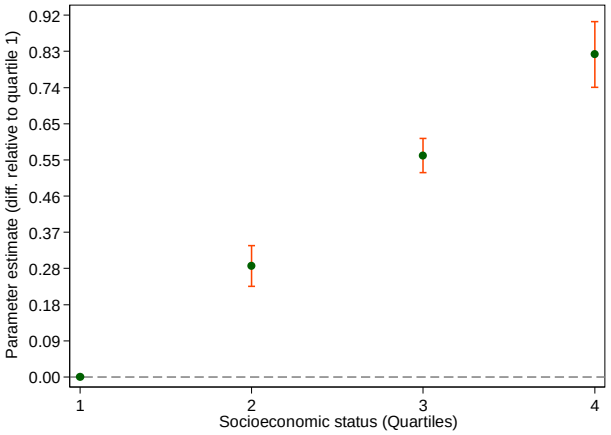
**Table 29. Recreational Use of Computer (students in grade 6)**

| | (1) | (2) |
|---|---|---|
| | Recreational use of computer (Index, mean=0, SD=1) | |
| High educated mother | 0.316*** | 0.232*** |
| | (0.025) | (0.017) |
| Both parents at home | -0.045** | -0.052*** |
| | (0.019) | (0.015) |
| Urban | 0.634*** | 0.594*** |
| | (0.055) | (0.052) |
| Girl | -0.020 | -0.010 |
| | (0.032) | (0.028) |
| Constant | -0.490*** | -0.348*** |
| | (0.051) | (0.047) |
| School fixed effects | NO | YES |
| Observations | 36,940 | 36,940 |
| R-squared | 0.172 | 0.229 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: All regressions include country fixed effects, and regression in column 2 also includes school fixed effects. Standard errors clustered at the sampling units of each country survey. *** p<0.01, ** p<0.05, * p<0.1

[8] ICT for entertainment includes the of computers for entertainment activities outside of school, as for playing games, using email, chatting online, participating in social networks, browsing the Internet for fun, reading news on the Internet, obtaining practical information from the Internet (e.g. locations, dates of events), downloading music, films, games or software from the Internet or uploading own created contents for sharing.

**Figure 29. Recreational Use of Computer (students in grade 6)**




*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE). Students in grade 6. Regression includes country fixed effects, an indicator of urban areas, a dummy indicating whether the student lives with both parents, and an indicator for girls. Standard errors clustered at the sampling units of each country survey. 95% CI.

The gender difference in the use of ICT for recreational time arises in the sample of students aged 15. Girls of that age use ICT for recreation less intensely than boys, in LAC and in the OECD (-0.26 SD and -0.34 SD, respectively).

**Table 30. Time Spent Using Computers for Entertainment, Students Aged 15 (PISA)**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | ICT entertainment use (Index mean=0, SD=1) | | | |
| | LAC | LAC | OECD | OECD |
| High educated mother | 0.677*** | 0.389*** | 0.104*** | 0.099*** |
| | (0.023) | (0.022) | (0.011) | (0.011) |
| Both parents at home | 0.069*** | 0.053** | 0.016 | 0.014 |
| | (0.023) | (0.022) | (0.017) | (0.017) |
| Girl | -0.238*** | -0.262*** | -0.340*** | -0.342*** |
| | (0.018) | (0.016) | (0.009) | (0.009) |
| Constant | -0.724*** | -0.123** | -0.106*** | -0.269*** |
| | (0.029) | (0.049) | (0.019) | (0.035) |
| School fixed effects | NO | YES | NO | YES |
| Observations | 40,538 | 40,538 | 174,790 | 174,790 |
| R-squared | 0.098 | 0.264 | 0.129 | 0.143 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.
*Note*: Sample of OECD countries excludes Chile and Mexico. All regressions also control for country fixed effects and regressions in even columns also control for school fixed effects. Standard errors clustered at school level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The sample "LAC countries" includes Chile, Costa Rica, Mexico and Uruguay.

### *4.3. Time Investments and Test Scores*

In LAC countries there is a positive correlation between student's performance and the amount of time they spend doing homework: comparing students attending the same schools, with similar socio-economic backgrounds, and the same gender, those who spend more time doing homework have better performance in mathematics and reading (Tables 31, 32 and 33). This positive relationship is observed in the sample of young students analyzed in TERCE—who are in 3rd and 6th grades (Tables 31 and 32)—and also in the sample of older students, those aged 15 and included in PISA 2012 (Table 33). In the sample of students aged 15, the correlation is similar to the one observed in OECD countries.

**Table 31. Students' Math and Reading Scores in grade 3 (TERCE score points)**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | **Math score** | | | | **Reading score** | | | |
| | Grade 3 | | | | | | | |
| Homework for more than 30' daily | 18.243*** | | | | 16.787*** | | | |
| | (2.483) | | | | (3.053) | | | |
| Not in school +2 days monthly | | -19.271*** | | | | -17.564*** | | |
| | | (2.666) | | | | (1.684) | | |
| Parents help with homework | | | 13.238*** | | | | 15.818*** | |
| | | | (3.762) | | | | (2.368) | |
| Parental supervision index | | | | 7.473*** | | | | 8.684*** |
| | | | | (0.803) | | | | (0.562) |
| Constant | 661.676*** | 678.066*** | 661.273*** | 673.103*** | 641.467*** | 658.666*** | 638.583*** | 652.960*** |
| | (6.303) | (6.672) | (7.180) | (6.212) | (5.265) | (5.175) | (5.805) | (4.826) |
| School fixed effects | YES | YES | YES | YES | YES | YES | YES | YES |
| Observations | 39,530 | 38,000 | 34,935 | 39,505 | 38,727 | 37,212 | 34,262 | 38,684 |
| R-squared | 0.373 | 0.377 | 0.355 | 0.372 | 0.376 | 0.380 | 0.365 | 0.379 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: Sample of 3rd graders. All regressions control for indicators of gender, household's socioeconomic status, student has both parents at home, urban area, country fixed effects and school fixed effects. Standard errors clustered at the sampling units of each country survey are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Students with lower number of absences from school, with higher parental supervision, or with parents helping them with homework more frequently also tend to score higher in TERCE (Tables 31 and 32), although the positive correlation of parental help with homework and test scores disappears in the sample of students in 6th grade (probably for selection issues).

**Table 32. Students' Math and Reading Scores in Grade 6 (TERCE score points)**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| | **Math score** | | | | **Reading score** | | | |
| | Grade 6 | | | | | | | |
| Homework for more than 30' daily | 20.617*** | | | | 21.777*** | | | |
| | (4.954) | | | | (3.682) | | | |
| Not in school +2 days monthly | | -12.411*** | | | | -10.925*** | | |
| | | (3.200) | | | | (2.671) | | |
| Parents help with homework | | | -4.896 | | | | -2.577 | |
| | | | (4.143) | | | | (3.798) | |
| Parental supervision index | | | | 3.545*** | | | | 6.128*** |
| | | | | (1.137) | | | | (1.424) |
| Constant | 664.083*** | 681.058*** | 680.719*** | 675.473*** | 625.654*** | 642.874*** | 640.613*** | 638.522*** |
| | (6.312) | (5.910) | (7.655) | (6.244) | (6.663) | (7.122) | (8.101) | (7.049) |
| School fixed effects | | | | | | | | |
| Observations | 42,094 | 40,588 | 38,481 | 42,278 | 41,541 | 40,058 | 37,989 | 41,719 |
| R-squared | 0.391 | 0.387 | 0.371 | 0.383 | 0.348 | 0.344 | 0.331 | 0.341 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note*: Sample of 6th graders. All regressions control for indicators of gender, household's socioeconomic status, student has both parents at home, urban area, country fixed effects and school fixed effects. Standard errors clustered at the sampling units of each country survey are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

These correlations suggest that students' performance could improve with the parental and time investments analyzed in this report. However, it is important to note that these are just associations and should not be taken as causal relationships. Interestingly, these correlations do not differ significantly between student's gender and mother's education.

**Table 33. Students' Math and Reading Scores (PISA score points)**

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | **Math score** | | **Reading score** | |
| | LAC | OECD | LAC | OECD |
| Hours a week spent on homework | 3.055*** | 3.724*** | 3.121*** | 3.557*** |
| | (0.121) | (0.156) | (0.136) | (0.148) |
| Constant | 410.979*** | 454.593*** | 400.322*** | 451.514*** |
| | (3.177) | (2.686) | (3.977) | (2.693) |
| School fixed effects | YES | YES | YES | YES |
| Observations | 47,580 | 149,315 | 47,580 | 149,315 |
| R-squared | 0.412 | 0.319 | 0.394 | 0.295 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.
*Note*: All regressions control for indicators of gender, household's socioeconomic status, country fixed effects and school fixed effects. Standard errors clustered at school level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

## 5. Conclusions

Results presented in this paper show that in Latin America and the Caribbean there is an important positive socio-economic/educational gradient on parental and individual time investments on developing children's skills. Students in urban areas and those living with both parents also receive more time investments in developing their skills. This positive socio-economic gradient is present in both educational and recreational activities.

The positive educational gradient in parental time investments is sharper for younger children (e.g. students in the 3rd grade versus those in the 6th grade), especially in parental time investments in educational activities.

An important gender difference arises in many cases. There are slight differences in the amount of time parents of boys and girls spend on educational childcare (more time with girls than with boys), however in the case of recreational activities parents seem to spend much more time with their boy children doing such activities than with their girl children. Moreover, boys spend more time on recreational activities than girls do, and girls spend more time on educational activities outside the school than boys do.

The results seems to be in line to those present in non-LAC countries, although for students aged 15 the educational gradient in parental time investments in educational activities is steeper in LAC countries than in OECD countries.

These results showing an important educational gradient in time investments on the analyzed activities are relevant because there is a positive correlation between student's performance and the amount of time they spend doing homework, the supervision they receive from their parents, and the number of days they are not absent from the school. However, it is important to note that this is just an association and should not be taken as a causal relationship.

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# Appendix

**Table A.1. Summary Statistics, PISA**

| LAC | | | |
|---|---|---|---|
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Girl | 62,182 | 0.513 | 0.500 |
| High educated mother | 62,182 | 0.484 | 0.500 |
| Both parents at home | 62,182 | 0.737 | 0.440 |
| Homework for more than 30' daily | 46,748 | 0.405 | 0.491 |
| Hours spent on homework (weekly) | 46,748 | 4.286 | 4.503 |
| Parents help child with homework | 31,676 | 0.335 | 0.472 |
| Parents talk about wellbeing at school | 32,119 | 0.636 | 0.481 |
| Parents talk with child | 31,952 | 0.453 | 0.498 |
| ICT entertainment use (Index) | 40,538 | -0.500 | 1.210 |
| ICT use at home for school-related tasks (Index) | 40,301 | 0.259 | 0.957 |
| Score Math | 47,580 | 404.8 | 73.47 |
| Score Language | 47,580 | 421.9 | 77.61 |
| OECD (excluding Chile and Mexico) | | | |
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Girl | 207,298 | 0.496 | 0.500 |
| High educated mother | 207,298 | 0.717 | 0.451 |
| Both parents at home | 207,298 | 0.845 | 0.362 |
| Homework for more than 30' daily | 145,352 | 0.520 | 0.500 |
| Hours spent on homework (weekly) | 145,352 | 5.416 | 5.207 |
| Parents help child with homework | 44,954 | 0.185 | 0.388 |
| Parents talk about wellbeing at school | 45,194 | 0.493 | 0.500 |
| Parents talk with child | 45,176 | 0.703 | 0.457 |
| ICT entertainment use (Index) | 174,790 | -0.192 | 1.039 |
| ICT use at home for school-related tasks (Index) | 173,522 | -0.216 | 1.037 |
| Score Math | 149,315 | 503.3 | 92.27 |
| Score Language | 149,315 | 511.3 | 89.26 |

*Source*: Authors' calculations based on data from the Programme for International Student Assessment (PISA) 2012.

*Note*: Sample of OECD countries excludes Chile and Mexico. Not all countries have information for all variables. For instance, in the analyzed sample there are only 8 countries that completed the parents' questionnaire (Chile, Mexico and six other OECD countries). The sample includes students with information of at least one of the variables listed in this table.

**Table A.2. Summary Statistics, TERCE, Demographic Characteristics and Test Scores**

| 3rd grade | | | |
|---|---|---|---|
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Girl | 37,542 | 0.500 | 0.500 |
| High educated mother | 37,542 | 0.497 | 0.500 |
| Both parents at home | 37,542 | 0.508 | 0.500 |
| Urban | 37,542 | 0.771 | 0.420 |
| Score Math | 40,471 | 727.1 | 90.06 |
| Score Reading | 40,324 | 719.8 | 87.35 |
| **6th grade** | | | |
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Girl | 40,144 | 0.501 | 0.500 |
| High educated mother | 40,144 | 0.465 | 0.499 |
| Both parents at home | 40,144 | 0.569 | 0.495 |
| Urban | 40,144 | 0.790 | 0.407 |
| Score Math | 43,032 | 731.8 | 94.13 |
| Score Reading | 43,309 | 722.2 | 91.52 |
| Score Science | 43,204 | 719.8 | 85.98 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note:* The sample includes students with information of at least one of the variables listed in this table.

**Table A.3. Summary Statistics, TERCE, Parental Time Investments: Educational and Recreational Childcare**

| 3rd grade | | | |
|---|---|---|---|
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Parents help with homework | 33,040 | 0.940 | 0.237 |
| Parental supervision index | 36,815 | -0.0861 | 1.007 |
| Parents read for child | 27,581 | 0.825 | 0.380 |
| Parents read with child | 31,744 | 0.835 | 0.371 |
| Parents discuss news with child | 30,675 | 0.856 | 0.352 |
| Parents play sports with child | 30,296 | 0.690 | 0.462 |
| Parents play electronic games with child | 29,514 | 0.503 | 0.500 |
| Parents go cinema with child | 29,017 | 0.414 | 0.493 |
| Parents go museum with child | 28,705 | 0.324 | 0.468 |
| Parents search web with child | 29,408 | 0.440 | 0.496 |
| **6th grade** | | | |
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Parents help with homework | 36,187 | 0.875 | 0.331 |
| Parental supervision index | 39,542 | -0.148 | 1.043 |
| Parents read for child | 32,187 | 0.742 | 0.437 |
| Parents read with child | 35,648 | 0.727 | 0.446 |
| Parents discuss news with child | 35,354 | 0.876 | 0.329 |
| Parents play sports with child | 34,807 | 0.634 | 0.482 |
| Parents play electronic games with child | 34,217 | 0.461 | 0.498 |
| Parents go cinema with child | 33,807 | 0.398 | 0.489 |
| Parents go museum with child | 33,340 | 0.298 | 0.457 |
| Parents search web with child | 34,224 | 0.452 | 0.498 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).
*Note:* The sample includes students with information of at least one of the variables listed in this table.

**Table A.4. Summary Statistics, TERCE, Individual Time Investments: Educational and Recreational Activities**

| 3rd grade | | | |
|---|---|---|---|
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Homework for more than 30' daily | 36,825 | 0.699 | 0.459 |
| Not in school +2 days monthly | 35,476 | 0.273 | 0.446 |
| Watch TV | 34,962 | 0.392 | 0.488 |
| Play playstation | 34,607 | 0.283 | 0.451 |
| Search web | 34,313 | 0.250 | 0.433 |
| Play with friends | 34,545 | 0.609 | 0.488 |
| Read | 34,480 | 0.360 | 0.480 |
| Go to the cinema | 34,132 | 0.131 | 0.337 |
| Go to museums | 34,171 | 0.138 | 0.345 |
| Play sports | 34,501 | 0.552 | 0.497 |
| 6th grade | | | |
| **Variable** | **Obs** | **Mean** | **Std.Dev.** |
| Homework for more than 30' daily | 39,404 | 0.699 | 0.459 |
| Not in school +2 days monthly | 38,085 | 0.242 | 0.429 |
| Read | 36,358 | 0.209 | 0.407 |
| Use computer at school (days a week) | 36,538 | 1.133 | 1.640 |
| Use computer out of school (days a week) | 36,700 | 3.350 | 2.604 |
| Use computer for homework | 37,532 | 0.334 | 0.472 |
| Use computer to find information | 36,280 | 0.330 | 0.470 |
| Watch TV | 36,761 | 0.359 | 0.480 |
| Play playstation | 35,901 | 0.249 | 0.432 |
| Search web | 35,634 | 0.343 | 0.475 |
| Play with friends | 36,608 | 0.390 | 0.488 |
| Go to the cinema | 35,438 | 0.068 | 0.252 |
| Go to museums | 35,335 | 0.050 | 0.219 |
| Play sports | 36,543 | 0.508 | 0.500 |

*Source*: Authors' calculations based on data from the Third Regional Comparative and Explanatory Study (TERCE).

*Note:* The sample includes students with information of at least one of the variables listed in this table.

***Summary Statistics, Time Use Surveys (MTUS), Sample of Married Women with at Least One Child under 17***

**Table A.5. Time Spent on Childcare, Women**

| Country | Year | Highly educated (Secondary or more) | Hours per week | | |
|---|---|---|---|---|---|
| | | | Total childcare | Basic childcare | Educational and recreational childcare |
| | | Women | | | |
| Germany | 2001-2002 | NO | | 8.8 | |
| Germany | 2001-2002 | YES | | 9.4 | |
| Italy | 2002-2003 | NO | | 4.9 | |
| Italy | 2002-2003 | YES | | 8.8 | |
| Netherlands | 2005 | NO | 7.2 | 4.5 | 2.7 |
| Netherlands | 2005 | YES | 10.1 | 5.9 | 4.2 |
| Norway | 2000-2001 | NO | | 4.9 | |
| Norway | 2000-2001 | YES | | 11.5 | |
| Republic of Korea | 2009 | NO | 5.0 | 3.4 | 1.6 |
| Republic of Korea | 2009 | YES | 12.0 | 7.9 | 4.1 |
| Slovenia | 2000-2001 | NO | | 5.3 | |
| Slovenia | 2000-2001 | YES | | 9.2 | |
| Spain | 2009-2010 | NO | 8.4 | 6.8 | 1.6 |
| Spain | 2009-2010 | YES | 12.7 | 9.5 | 3.2 |
| United Kingdom | 2005 | NO | | 9.6 | |
| United Kingdom | 2005 | YES | | 14.8 | |
| USA | 2011-2012 | NO | 12.8 | 7.4 | 5.4 |
| USA | 2011-2012 | YES | 12.8 | 7.4 | 5.3 |

*Source*: Authors' calculations based on data from the Multinational Time Use Study.
*Note*: Total childcare includes basic, educational and recreational childcare. Basic care includes physical, medical, supervisory and routine child care. Educational and recreational childcare includes activities as play/sports with, read/talk to child, help with homework. In the case of basic care, the sample includes married women. No data available for educational and recreational childcare in the cases of Germany, Italy, Norway, Slovenia and United Kingdom.

## Table A.6. Time Spent with Children Teaching or Helping Them with Homework and Time Spent Reading to, Talking or Playing with Child, Hours per Week, Women

| Country | Year | Highly educated (Secondary or more) | Teach or help with homework | | | Read to, talk or play with child | | |
|---|---|---|---|---|---|---|---|---|
| | | | Age range of the youngest child | | | | | |
| | | | 0-4 | 5-12 | 13-17 | 0-4 | 5-12 | 13-17 |
| Netherlands | 2005 | NO | 0.13 | 0.39 | 0.42 | 4.68 | 2.04 | 0.12 |
| Netherlands | 2005 | YES | 0.16 | 0.98 | 0.47 | 6.16 | 2.59 | 0.60 |
| Spain | 2009-2010 | NO | 0.51 | 1.08 | 0.02 | 2.51 | 0.66 | 0.06 |
| Spain | 2009-2010 | YES | 0.50 | 2.03 | 0.62 | 3.37 | 1.19 | 0.12 |
| USA | 2011-2012 | NO | 1.15 | 1.34 | 0.76 | 6.24 | 1.80 | 1.62 |
| USA | 2011-2012 | YES | 1.00 | 2.20 | 0.86 | 6.74 | 1.99 | 0.65 |

*Source*: Authors' calculations based on data from the Multinational Time Use Study.

**Table A.7. Time Spent on Childcare, Men**

| Country | Year | Highly educated (Secondary or more) | Hours per week | | |
|---|---|---|---|---|---|
| | | | Total childcare | Basic childcare | Educational and recreational childcare |
| | | | Men | | |
| Germany | 2001-2002 | NO | | 3.8 | |
| Germany | 2001-2002 | YES | | 4.0 | |
| Italy | 2002-2003 | NO | | 2.0 | |
| Italy | 2002-2003 | YES | | 3.6 | |
| Netherlands | 2005 | NO | 3.7 | 1.7 | 2.0 |
| Netherlands | 2005 | YES | 5.3 | 2.6 | 2.7 |
| Norway | 2000-2001 | NO | | 3.2 | |
| Norway | 2000-2001 | YES | | 5.1 | |
| Republic of Korea | 2009 | NO | 1.7 | 0.6 | 1.0 |
| Republic of Korea | 2009 | YES | 2.5 | 1.1 | 1.4 |
| Slovenia | 2000-2001 | NO | | 2.1 | |
| Slovenia | 2000-2001 | YES | | 4.0 | |
| Spain | 2009-2010 | NO | 4.3 | 2.9 | 1.4 |
| Spain | 2009-2010 | YES | 6.7 | 4.3 | 2.4 |
| United Kingdom | 2005 | NO | | 6.8 | |
| United Kingdom | 2005 | YES | | 8.4 | |
| USA | 2011-2012 | NO | 6.9 | 3.4 | 3.5 |
| USA | 2011-2012 | YES | 7.2 | 3.6 | 3.7 |

*Source*: Authors' calculations based on data from the Multinational Time Use Study.
*Note*: Total childcare includes basic, educational and recreational childcare. Basic care includes physical, medical, supervisory and routine child care. Educational and recreational childcare includes activities as play/sports with, read/talk to child, help with homework. In the case of basic care, the sample includes married men. No data available for educational and recreational childcare in the cases of Germany, Italy, Norway, Slovenia and United Kingdom.

## Table A.8. Time Spent with Children Teaching or Helping Them with Homework and Time Spent Reading to, Talking with or playing with Child, Hours per Week, Men

| Country | Year | Highly educated (Secondary or more) | Teach or help with homework | | | Read to, talk or play with child | | |
|---|---|---|---|---|---|---|---|---|
| | | | Age range of the youngest child | | | | | |
| | | | 0-4 | 5-12 | 13-17 | 0-4 | 5-12 | 13-17 |
| Netherlands | 2005 | NO | 0.03 | 0.21 | 0.29 | 4.09 | 0.87 | 0.13 |
| Netherlands | 2005 | YES | 0.03 | 0.39 | 0.18 | 4.38 | 1.74 | 0.26 |
| Spain | 2009-2010 | NO | 0.20 | 0.81 | 0.10 | 2.46 | 0.61 | - |
| Spain | 2009-2010 | YES | 0.42 | 1.11 | 0.28 | 3.00 | 1.09 | 0.06 |
| USA | 2011-2012 | NO | 0.40 | 0.40 | 0.07 | 5.38 | 1.56 | 0.03 |
| USA | 2011-2012 | YES | 0.41 | 0.99 | 0.20 | 5.28 | 1.61 | 0.34 |

*Source*: Authors' calculations based on data from the Multinational Time Use Study.