Socio-Family Context and Its Influence on Students’ PISA Reading Performance Scores: Evidence from Three Countries in Three Continents

Esteban Vázquez-Cano
Spanish National University of Distance Education (UNED), Spain

Ana María De la Calle-Cabrera
Loyola University, Spain

Carlos Hervás-Gómez
University of Sevilla, Spain

Eloy López-Meneses
Pablo de Olavide University, Spain

Abstract

This investigation set out to analyse the relation between parents’ academic qualifications, profession and role in educating their children and their children’s level of efficacy in reading at the end of the adolescent stage, in three states with different socio-cultural contexts, namely Canada, Finland and Singapore. The study is carried out in three countries with differing socio-cultural contexts and uses multilevel analysis and binary logistic regression to measure the predictive value of socio-family skills in these three countries against a range of student reading ability profiles. The results show that the parents’ academic qualifications, profession and educational role are the most influential aspect of the predictability in the variability of their children’s reading skills. Parents with a low level of education predict poor student reading ability, but when it is the mother who has a medium or high level of education, the results of the students are better than when that level is only achieved by the father. Therefore, the educational role of mothers and fathers, as shown by the interest they take in their children’s schoolwork, is a predictor of students’ reading skills, regardless of the sociocultural and academic context of the students.

Keywords

Reading • PISA • assessment • context • socio-economic status

Correspondence to Esteban Vázquez-Cano, PhD, Faculty of Education, Spanish National University of Distance Education (UNED). C/ Juan del Rosal, 14 (28040) Madrid (Spain). Email: evazquez@edu.uned.es

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The influence of parents’ academic qualifications and job type (socio-economic status - SES) on their children’s performance at school is widely reported in the scientific literature (McNeal, 1999; Patall, Cooper, & Robinson, 2008; Singh et al., 1995; Sobolewski & Amato, 2005). Since the appearance of the PISA and TIMSS macro studies, the socio-educational and economic variables that relate to families have been a constant target for study, yielding a diverging set of results (Domina, 2005; Englund, Luckner, Whaley, & Egeland, 2004; Hoover-Dempsey et al., 2001; Mattingly, Prislin, McKenzie, Rodriguez, & Kayzar, 2002). In many countries, SES is now a prominent variable of student academic achievement. Understanding how, and how much, the socio-family context influences children’s performance at school is a factor that can condition national educational policy and the interventions of teachers and families in the teaching-learning process.

Results from the literature are mixed with regard to the influence of SES on school performance. This is because variables linked to type of school, socio-cultural context also have an effect. For this reason, the analysis of SES influence on student performance, particularly in reading, is an important subject for study on a worldwide level. Students’ reading capacity is one of the basic competences that all students must acquire during compulsory education, being an essential skill for personal, social, academic, and professional development. The PISA concept of reading skill assesses the student’s capacity to locate, select, interpret and evaluate information drawn from a wide range of typologies and text formats associated to different academic, personal and social situations (Organisation for Economic Co-operation and Development [OECD], 2013).

The main aim of this research was to discover if there were any differences in the link between parents’ academic qualifications, profession, and role in educating their children and their children’s reading skills. The study covered students in their late teens in Canada, Finland, and Singapore, three states with differing socio-cultural contexts.

Furthermore, previous PISA assessments showed that in many countries, poor performance in school did not automatically follow from a disadvantaged home background (OECD, 2010). This finding has important implications for policy makers and more in-depth contrastive studies are required in order to analyse the incidence of SES on reading performance. Poorer performing students will almost certainly be those least likely to obtain employment that offers the promise of economic and social mobility. This is a loss not just for individuals, but also for societies that are increasingly dependent on the contributions of all their members for economic growth (OECD, 2010).

**The Influence of Socio-Family Context and Parents’ Level of Education on Students’ Reading Performance in PISA**

The influence of parents’ academic qualifications is a common variable in analyses of students’ academic performance. However, the literature on the subject shows that the extent of this influence can vary. The results are not consistent. Some studies show a positive relation between parents’ level of education and their involvement in their children’s teaching-learning processes (Callahan, Rademacher, & Hildreth, 1998; Fan, 2001; Hong & Ho, 2005; Houtenville & Conway, 2008; McWayne, Hampton, Fantuzzo, Cohen, & Sekino, 2004) while others conclude that there is no positive link (Barnard, 2004; Mattingly et al., 2002; Patall et al., 2008) or that the association is negative (B. Coleman & McNeese, 2009; Domina, 2005; Fan, 2001; Muller, 1995). It is important to note, the correlation of school SES with academic performance has been demonstrated in some cases as even stronger than individual SES (OECD, 2004). Furthermore, as Rutkowski and Rutkowski (2013) indicated, it is well established that an identical measure
can be understood differently by respondents from different cultures (Byrne & van de Vijver, 2010), further threatening the validity of knowledge claims regarding population comparisons.

The relation between SES and family involvement in their children’s studies is also reported as a relevant variable, depending on the study and results, and there are studies that show a positive relation between both variables (Desimone, 1999; Kim, Hwang, & Shin, 2009; Lee & Bowen, 2006; McNeal, 1999; Park, 2008). However, others fail to find this relation, and some conclude that it is negative. There are even studies that offer the contradictory finding, that low SES families are more involved in their children’s studies (Domina, 2005; Gregory & Rimm-Kaufman, 2008; Jeynes, 2007; Meehan, Hughes, & Cavell, 2003).

The main challenge facing studies of an international nature that seek to make comparisons between countries is the different types of educational levels and systems. In addition, it is difficult for students to determine exactly the educational level of their own parents. For this reason, students’ answers to this question are usually ranked according to International Standard Classification of Education ([ISCED], OECD, 1999), as 0 (None), 1 (ISCED 1 - Primary Education), 2 (ISCED 2 - Phase One Secondary School), 3 (ISCED level 3B or 3C - Vocational/Pre-vocational Upper Secondary), 4 (ISCED 3A - Phase Two Secondary School and/or ISCED 4 - Post-Secondary, Non-Tertiary), 5 (ISCED 5B - Short Cycle Tertiary Education), and 6 (ISCED 5A and 6 - Tertiary Education and Postgraduate). In a system in which students are afforded similar educational opportunities, the socio-family context and location of the school have little effect on students’ academic performance. In these contexts, academic results are driven by the students’ own capacity, effort, and ambition. However, it is more common to find that students come from different family and socio-economic backgrounds, which conditions their performance at school and, as part of that, their competence in reading. In addition, the perception of a competent reader has changed over the years, such that nowadays individuals are deemed to improve continuously throughout their lives in their skills to interpret written texts and access information more efficiently, aspects that are seen as essential in today’s information and communication society (Guthrie & Wigfield, 2000; Lundberg, 1991; Sayans-Jiménez, Vázquez-Cano, & Bernal-Bravo, 2018). Cognitive theories insist on the importance of interactivity and comprehension in reading (Bruner, 1990; Dole, Duffy, Roehler, & Pearson, 1991; Vázquez-Cano, 2013; Vázquez-Cano, 2017; Vázquez-Cano, Gómez-Galán, Infante-Moro, & López-Meneses 2020).

With these two principles as reference, PISA defines reading skill as “the ability to understand, utilise, reflect and interact from reading in order to fulfil personal objectives, develop individual potential and participate in society” (OECD, 2013, p. 6). In this sense, reading skill is achieved when the individual acquires an interpretative awareness, not only theoretical, of the processes of decoding and interpreting meaning, syntactic patterns and textual typologies within different personal, media, social and academic contexts that are vital for a person to develop in today’s world (Cunningham & Stanovich, 1998; Holloway, 1999; Smith, Mikulecky, Kibby, Dreher, & Dole, 2000; Vázquez-Cano, 2017). Acquiring high standards in reading comprehension is not only important for the individual citizen but for society as a whole, as its influence as a potential predictor of social development has been demonstrated (OECD, 2012). And a person with good reading skills is not only able to interpret what they read but also gain satisfaction from reading on a leisure, social, personal, and professional level. To measure comprehension, PISA adapted four situational variables from the Common European Framework of Reference (CEFR) developed by the Council of Europe in 1996. In addition to classification by situational variable and text typology, PISA also includes competence in the metacognitive strategies that condition reading skills. The aim is to make the context applicable as real as possible in order to measure the acquisition of six cognitive skills, to ensure understanding and correct summarizing of the information that has been read: focus on the parts of the text that are easiest to understand, fluent reading of two parts of the texts, group discussion on the text,
emphasising the main points, summarising the text in the student’s own words and reading out loud to another person.

Student performance in these tests cannot only be interpreted on an institutional level or refer exclusively to the influence of the school and educational system on the improvement of the student’s reading and interpretative skills. Other variables can have a significant effect, mainly variables that are socio-economic relating to the family environment and its available resources. In this sense, as Chen, Kong, Gao, and Mo (2018, p. 1) establish, “people generally believe that there is a strong and stable correlation between SES and children’s academic achievement and cognitive development”. However, the conclusions from studies are inconsistent (Bradley & Corwyn, 2002). A meta-analysis conducted by White (1982) of almost 200 studies showed a positive correlation between SES and academic achievement, with an average of 0.35 and a median of 0.25. Another meta-analysis performed by Sirin (2005) of more than 70 studies published from 1990 to 2000 found that there was not a high correlation between SES and academic achievement. The average was 0.29, and the median was 0.24 (Chen et al., 2018). In the latest PISA study, family context is seen to have a strong influence on students’ reading ability in all countries. For example, variations in family context across the OECD area of countries explains more than 22% of the differences in the results, and specifically in reading, an average of 13% (OECD, 2010).

This investigation set out to analyse the relation between parents’ academic qualifications, profession and role in educating their children and their children’s level of efficacy in reading at the end of the adolescent stage, in three states with different socio-cultural contexts, namely Canada, Finland and Singapore. We examined socio-family skills and their predictive value for reading performance. Firstly, we analysed the predictive value of parents’ academic qualifications, profession, and educational role in the three states by multilevel analysis, then we made a comparison. Secondly, we examined the predictive value of the three socio-family skills by binary logistic analysis in each country.

Our study had two main objectives: (i) to analyse the predictive value of the socio-family skills related to the level of education, profession and educational role of parents for students’ level of reading performance at the end of adolescence, and (ii) to study the influence of the three states’ socio-cultural context on the predictive value of socio-family skills.

**Methods**

**Participants**

The sample consisted of 13,500 students selected to take part in the PISA study in Canada, Finland, and Singapore. All were aged 15 ($M_{age}=15$, 49.9% girls). The sample of Canada was 4,500 students of ten different regions (Newfoundland and Labrador = 5.4 %, Prince Edward Island = 1.8 %, Nova Scotia = 7.6 %, New Brunswick = 7.4 %, Quebec = 14.1 %, Ontario = 21.9 %, Manitoba = 11.7 %, Saskatchewan = 9.3 %, Alberta = 11 %, and British Columbia = 9.9 %), which did the questionnaire in English (75.2%) or French (22.4%). The sample of Finland was 4,500 students of national territory, which did the questionnaire in Finnish (93.6 %) or Swedish (5.6 %). The sample of Singapore was 4,500 students of national territory, which did the questionnaire in English. The average socioeconomic and cultural indices are higher in the sample of Finland and Canada than in Singapore, according to the indicators of PISA 2015 about cultural possessions at home (CP\text{Canada} = .25, CP\text{Finlandia} = .17, CP\text{Singapur} = -.21), home possessions (HP\text{Canada} = -.00, HP\text{Finlandia} = .13, HP\text{Singapur} = -.17) and family wealth (FW\text{Canada} = .53, FW\text{Finlandia} = .17, FW\text{Singapur} = -.23).
**Instruments**

This research is based on data collected by the 2015 PISA database, which is a standardized test that measures proficiency in mathematics, reading and science at the education system level. Data is collected primarily through multiple-choice tests with a wide variety of formats, such as highlighting a word within a text, connecting pieces of information, and making multiple selections from the drop-down menus. In the development of the test, each student does not necessarily receive the same set of evidence. Particularly, the reading measures are carried out through adaptive tests to the performance demonstrated by the students in the first parts of the evaluation. In addition, students respond to a questionnaire about their attitudes towards learning and their homes (OECD, 2020).

**Procedure**

The PISA test examines the performance in mathematics, reading and science of 15-year-old students. This procedure is applied in three-year cycles. Thus, the data used for this study correspond to the PISA 2015 test, which has been downloaded from a public database (OECD, 2015).

**Data Analysis**

The data were analysed using SPSS statistical software. Firstly, we compared the samples from the three states in order to carry out a comparative analysis of the results. We made a random selection of 4,500 students from the original database from each of the three states. Then we defined the dependent and predictor variables. The dependent variables were those quantitative variables that alluded to reading efficacy in the PISA database, which corresponded to 10 items in the reading test. The predictor variables alluded to socio-family skills.

Regarding parents’ academic qualifications as classified by ISCED, the PISA database categorized the mother’s and the father’s level of education. Regarding parents’ academic qualifications were ordinals variables and obtained 12 distinct values relating to the following values: 0 - None, no level attained, not applicable, invalid and did not respond; 1 - Primary Education; 2 - Phase One Secondary School; 3 - Vocational/Pre-vocational Upper Secondary; 4 - Phase Two Secondary School and Post-Secondary, Non-Tertiary; 5 - Short Cycle Tertiary Education; 6 - Tertiary Education and Postgraduate. After, the parents’ and mothers’ professions were ordinal variables and recoded for simplification in line with the following values: none, no level attained, not applicable, invalid and did not respond; 1 - Unskilled professions; 2 - Inactive professions (unemployed, pensioners, students; 3 - Basic-level professions (machine operators); 4 - Medium-level professions (technicians); 5 - High-level professions (requiring a university qualification); 6 - Upper-level professions (directors). Then, the parents’ educational role was interpreted according to the PISA database, which contained four variables that measured this construct: “My parents show an interest in my school work”, “My parents support my efforts at school and respect my achievements”, “My parents support me when I have problems at school”, “My parents encourage me to have confidence in myself”. Cronbach's alpha for this scale is .87. These variables were numerical and were scaled responses, which were recoded as nominal variables and obtained two different values in accordance with the following levels: No (totally disagree and disagree), Yes (agree and totally agree).

With the variables and their characteristics defined, we carried out the relevant analyses with the samples from each state. Firstly, we ran a descriptive analysis of reading performance. Then, we did a multilevel analysis between the three socio-family skills, academic qualifications, profession, educational role of the parents and the students’ reading performance, considering the normal distribution of the data. The multilevel analysis responds to a mixed-effects model that includes fixed and random factors (Eisenhart, 1947). Socio-family variables are considered fixed factors since levels are established premeditated
(Milliken & Johnson, 1992). After, we defined the profile of students who failed the reading tests (25 percentile) and the profile of students with the best reading performance (90 percentile), recoding the total score obtained in the reading performance test as a single nominal variable (0 = does not fit profile, 1 = fits profile). Thus, using these new reading performance variables, we carried out a binary logistic regression analysis to explore the predictive value of the socio-family skills in the three states, considering the various reading performance profiles of the students.

**Results**

The reading performance of students from Canada, Finland and Singapore varied significantly. On average, students from Finland scored higher than their counterparts in Singapore and Canada in the total result of the reading test. Students from Singapore scored higher than those from Canada, which obtained the lowest score of the three states (Table 1).

Table 1. *Mean descriptive analyses of reading performance and the ANOVA of the country factor*

| Country     | Mean (M) | Standard Deviation (SD) | F       | p     |
|-------------|----------|-------------------------|---------|-------|
| Reading performance | 5147.25  | 834.02                  |         |       |
| Canada      | 5283.28  | 878.40                  | 30.85   | .000  |
| Finland     | 5262.29  | 937.98                  |         |       |
| Singapore   | 5262.29  | 937.98                  |         |       |

The descriptive value of the academic qualifications, profession and educational role of the parents in terms of their children’s efficacy in reading was measured by regression analysis in the three states. We considered the total result that quantify reading performance as dependent variable parents’ level of education and profession as fixed factors, and their educational role in their children’s development as covariables. Table 2 shows the estimated value of the intersection. It is an estimate of the socio-family factors in the dependent variable reading competence. The results of the table allow to affirm that the intersection of these condition the reading competence in the three countries.

Table 2. *Estimates of fixed effects*

| Country     | Estimate | Standard Error | df     | t     | p     |
|-------------|----------|----------------|--------|-------|-------|
| Canada      | 1198451946.69 | 1           | 1198451946.69  | 2028.75 | .000  |
| Finland     | 1424066692.77 | 1          | 1424066692.77  | 2215.51 | .000  |
| Singapore   | 1883716841.77 | 1          | 1883716841.77  | 2644.38 | .000  |

Later, the predictive value of the socio-family skills relating to students with poor reading skills (25 percentile) and students with the best test scores in reading (90 percentile) were explored using binary logistic analysis. In Canada, socio-family skills predicted poor reading performance with $R^2$ between .02 and .13 (Cox and Snell’s $R$ squared, and Nagelkerke’s $R$ squared, respectively) and the top reading performances with $R^2$ between .05 and .09 ($p < .001$ in the omnibus tests). Table 3 presents the variables included in the binary logistic regression equation in the two suppositions. Mother’s level of education and parents’ occupation predicts their children’s reading performance in the two level of reading performance in their children. In addition, the parents’ role in educating their children is a predictive value for top and
poor reading performance. However, father’s level of education predicts their children’s poor reading performance.

Table 3. Predictive value of socio-family skills for students’ reading performance in Canada, according to binary logistic analysis

|                  | ≤ Percentile 25 |         |         |         |         | ≥ Percentile 90 |         |         |         |         |         |
|------------------|------------------|---------|---------|---------|---------|-----------------|---------|---------|---------|---------|---------|
|                  | B    | SE   | Wald   | df    | p       | Exp(B) | B     | SE   | Wald   | df    | p       | Exp(B) |
| Mother’s education | -.21 | .08  | 7.90   | 1     | .005    | .81    | .18   | .05  | 13.22  | 1     | .000    | 1.20   |
| Father’s education  | -.01 | .07  | 0.04   | 1     | .846    | .99    | .13   | .04  | 9.01   | 1     | .003    | 1.13   |
| Mother’s occupation | -.18 | .05  | 10.47  | 1     | .001    | .84    | .13   | .03  | 22.66  | 1     | .000    | 1.14   |
| Father’s occupation  | -.30 | .06  | 26.37  | 1     | .000    | .74    | .20   | .03  | 59.54  | 1     | .000    | 1.23   |
| Parents’ educational role | -.52 | .13  | 15.05  | 1     | .000    | .59    | .32   | .08  | 15.07  | 1     | .000    | 1.38   |
| Constant          | .16  | .50  | .1    | 1     | .753    | 1.17   | -5.55 | .37  | 220.98 | 1     | .000    | .00    |

In Finland, socio-family skills predicted poor reading performance with $R^2$ between .03 and .16 (Cox and Snell’s $R$ squared, and Nagelkerke’s $R$ squared, respectively) and the top reading performance with $R^2$ between .06 and .09 ($p < .001$ in the omnibus tests). Table 4 shows the variables included in the binary logistic regression equation for predicting poor reading performance and best reading performance. Mother’s level of education and parents’ occupation predicts their children’s reading performance in the two levels of reading performance in their children too. The parents’ role in educating their children is a predictive value for poor reading performance, whereas father’s level of education predicts their children’s top reading performance.

Table 4. Predictive value of socio-family skills for students’ reading performance in Finland, according to binary logistic analysis

|                  | ≤ Percentile 25 |         |         |         |         | ≥ Percentile 90 |         |         |         |         |         |
|------------------|------------------|---------|---------|---------|---------|-----------------|---------|---------|---------|---------|---------|
|                  | B    | SE   | Wald   | df    | p       | Exp(B) | B     | SE   | Wald   | df    | p       | Exp(B) |
| Mother’s education | -.18 | .06  | 8.30   | 1     | .004    | .83    | .21   | .04  | 28.59  | 1     | .000    | 1.23   |
| Father’s education  | -.03 | .06  | 0.22   | 1     | .642    | .97    | .16   | .03  | 28.32  | 1     | .000    | 1.18   |
| Mother’s occupation | -.35 | .06  | 36.56  | 1     | .000    | .71    | .19   | .03  | 38.40  | 1     | .000    | 1.21   |
| Father’s occupation  | -.19 | .05  | 12.35  | 1     | .000    | .83    | .12   | .03  | 20.35  | 1     | .000    | 1.13   |
| Parents’ educational role | -.91 | .13  | 44.85  | 1     | .000    | .40    | .12   | .07  | 3.00   | 1     | .083    | 1.13   |
| Constant          | 1.87 | .49  | 14.91  | 1     | .000    | 6.53   | -4.73 | .31  | 233.52 | 1     | .000    | .01    |

In Singapore, socio-family skills predicted poor reading performance with $R^2$ between .02 and .08 (Cox and Snell’s $R$ squared, and Nagelkerke’s $R$ squared, respectively) and the top reading performance with $R^2$ between .10 and .16 ($p < .001$ in the omnibus tests). Table 5 shows the variables included in the binary logistic regression equation for predicating poor reading performance and best reading performance. Parents’ level of education, parents’ occupation and parents’ role in educating their children are a predictive value for poor reading performance in their children, whereas mother’s level of education and parents’ role in educating their children are not a predictive value for top reading performance in their children.
Table 5. Predictive value of socio-family skills for students’ reading performance in Singapore, according to binary logistic analysis

|                           | ≤ Percentile 25 |               |               |               | ≥ Percentile 90 |               |               |               |
|---------------------------|-----------------|---------------|---------------|---------------|-----------------|---------------|---------------|---------------|
|                           | *B*             | *SE*          | *Wald*        | *d*           | *p*             | *Exp(B)*      | *B*           | *SE*          | *Wald*        | *df*           | *p*             | *Exp(B)*       |
| Singapore                 |                 |               |               |               |                 |               |               |               |               |
| Mother’s education        | .08             | .06           | 1.71          | 1             | .192            | 1.09          | .20           | .03           | 32.73         | 1              | .000           | 1.22           |
| Father’s education        | -.14            | .06           | 6.51          | 1             | .011            | .87           | .21           | .03           | 40.23         | 1              | .000           | 1.24           |
| Mother’s occupation       | -.22            | .08           | 21.32         | 1             | .000            | .80           | .12           | .02           | 33.30         | 1              | .000           | 1.13           |
| Father’s occupation       | -.23            | .04           | 26.52         | 1             | .000            | .79           | .18           | .02           | 53.24         | 1              | .000           | 1.19           |
| Parents’ educational role| .18             | .15           | 1.44          | 1             | .231            | 1.20          | .24           | .07           | 13.13         | 1              | .000           | 1.27           |
| Constant                  | -.46            | .52           | 22.43         | 1             | .000            | .08           | -5.06         | .26           | 366.04        | 1              | .000           | .01            |

Discussion

We observe that students’ reading performance in PISA 2015 contains statistically significant differences between states as varied structurally and geographically as Canada, Finland, and Singapore. The mean score for the three was Singapore - 535, Canada - 527, and Finland - 526, similar and within the top quartile of results for all the OECD countries participating in the tests. So, it was interesting for us to discover whether socio-family variables could significantly influence students’ reading performance in terms of country of residence and socio-cultural context.

One of the first results that emerged was that the influence of the socio-family skills studied (parents’ academic qualifications, profession, and role in educating their children) as predictor of reading performance in all three states was moderate. In fact, it had a prediction value of around 10% of the variability of students’ reading performance. This is in line with other studies that show the socio-family context explains between 14% and 33% of the variance in students’ academic performance (Freeman & Viarengo, 2014). A more detailed analysis of the predictive value of the socio-family skills shows that students’ reading performance is explained mainly by their parent’s level of education. In this sense, many studies show that academic performance within a favourable context is greater than that of students who are more disadvantaged (Hanushek & Woessmann, 2011). In Canada, it was observed that the role of parents in educating their children, in terms of interest shown in their children’s schoolwork, was also a predictor for better reading performance. This could be justified by parents showing greater interest in their children’s academic work when they detect learning difficulties in their children. In addition, a low level of education among mothers and fathers predicted poor reading performance, whereas a medium to high level of education in mothers predicted strong reading efficacy.

Likewise, the role played by parents in the education of their children, referring to the interest they show in their children’s schoolwork, is a predictor of their poor student reading performance. Our research results endorse those in other investigations that show that a high level of education in parents increases the chances of their children succeeding at school (Börjklund & Salvanes, 2010; Davis-Kean, 2005), and when linked to high income. Research on parental participation and support at home regarding their children’s schoolwork correlates positively with students’ results (Bourdieu, 1986; J. S. Coleman, 1988; Hoover-Dempsey & Sandler, 1997; Vázquez-Cano, Sirignano, & López Meneses, 2014). Longitudinal studies in several countries suggest that parents’ help with children’s homework increases students’ expectations that they can advance in their academic processes (Schoon & Parsons, 2002; Singh et al., 1995), and encourages them to get involved in cultural and educational activities (George & Kaplan, 1998). Thus, parents’ level of
education acquires special importance in the parents-children relationship in terms of the development of their children’s personalities (Laosa, 1978). It has also been demonstrated that there is a link between parents’ own academic qualifications and their children’s academic performance, mainly due to the fact that those parents with a high level of education can provide a more enriching family and cultural setting for their children (Bouchard & McGue, 1981; Plomin, DeFries, & Loehlin, 1977). In fact, parents’ level of education is a determining factor in students’ academic achievement. For example, a longitudinal study by Duncan and Brooks-Gunn (1997) concluded that the mother’s level of education was significantly related her children’s academic performance, after controlling for various family SES factors.

The results of this study also confirm those in other international longitudinal studies (Blau & Duncan, 1967; Duncan, Featherman, & Duncan, 1972) that show that family SES has a positive or a negative effect, particularly in the later teenage years and the first years of adult maturity (Caspi, Wright, Moffitt, & Silva, 1998; Sobolewski & Amato, 2005). As for the development of reading, it is considered that the influence of the family can help students to create cognitive maps, values and beliefs that endure over time, and help them to interpret and contextualize their reading (Anderson & Huesmann, 2003; Huesmann, 1998). This is especially relevant in the development of reading comprehension, a skill that is constructed and perfected over time. In line with previous studies (Eccles, 1992; Eccles, Vida, & Barber, 2004) this cognitive process can generate in students a greater expectation of academic success.

Furthermore, the results indicate that when it is the mother who has a medium or high level of education, the results of the students are better than when that level is only achieved by the father. These results are in line with Mercy and Steelman (1982) that argued that although different indicators of SES (family income and parents’ education level) could all predict children’s intelligence score, the mother’s educational attainment acted as a better predictor than the father’s. Results of this research show that parents’ academic qualifications, profession, and the role they play as educators in the home accounts for a 10% prediction of the variability of reading performance in students. Parents’ level of education predicts both deficient and outstanding reading performance in students in the three states compared. These results also show that families’ socio-economic status is not just a question of resources and opportunities available in the home, but also influences the social context in which the adolescent lives and develops. Thus, it can be considered social capital in that it influences the relationships the students maintain with neighbours and the school, and which is an essential element in academic achievement (Dika & Singh, 2002).

It is also important to determine how relevant family context is in students’ academic achievement and, specifically, in reading performance, in relation to school resources and variables such as state spending on education, the number of students per class and the quality of teachers. Being able to calculate such aspects in a specific context helps to shape better-targeted educational policies that support socio-family situations that can significantly improve academic outcomes for adolescents. Schools could contribute, as educational organizations and their standing in the community, by identifying family situations that could prejudice a student’s performance. Reading is a particularly sensitive area that needs an environment and resources that enable books to be acquired and the development of a reading culture. School libraries, literary workshops, extending library opening times, social networks that encourage access to, and reading of books, booktubers, the use of digital and virtual settings for educational purposes, social networks and their links to reading and writing (e.g., LibraryThing and Goodreads) are just some of the activities that can foment interest in reading and offset family situations that do not encourage the reading habit. We must design and implement educational, social, and personal actions that promote pleasure in reading. For example, in Finland 41% of students state that they read for pleasure and only 22% say they feel obliged to pick up a book. This is significantly higher than in other OECD countries, where the average is 32% who
do not read for pleasure. This joy of reading among Finnish adolescents, even among those whose parents have low social-economic status, shows why their PISA results in reading are above average for OECD countries.

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