

## The Reading Gap in the Dominican Republic: Education System or Socioeconomic Vulnerability?

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### Abstract

This study examined differences in reading performance between public and private school students in the Dominican Republic—a country with historically low reading achievement in international assessments—and explored the influence of socioeconomic factors on these outcomes. A total of 1,168 students from second grade to the beginning of secondary school were assessed using standardized instruments to evaluate psycholinguistic precursors of reading (phonological awareness, rapid automatized naming, short-term verbal memory, and alphabetic knowledge), oral language skills (vocabulary, grammatical comprehension, and oral comprehension), and reading performance (fluency and comprehension). Results revealed significant performance differences between public and private school students across nearly all variables, with medium to large effect sizes favoring the private system, particularly in reading fluency. Linear regression analyses identified family income as the most consistent predictor of reading fluency, vocabulary, and comprehension, while parental education also showed specific

effects by grade level. Controlling for socioeconomic status (SES) substantially reduced or eliminated most differences between systems, especially in comprehension and linguistic skills, suggesting that SES explains much of the educational gap linked to structural inequalities. However, medium effect sizes persisted in decoding fluency, indicating a possible residual impact of the educational system. Findings underscore the urgent need to strengthen early reading instruction and to ensure universal access to high-quality pre-primary education, as 40% of public-school students lack functional reading ability by the end of 2<sup>nd</sup> grade. These results highlight the importance of educational policies aimed at mitigating structural inequities and promoting equitable literacy development in the Dominican Republic.

**Keywords:** Reading Performance; Socioeconomic Status; Literacy Development; Achievement Gap; School Systems; Educational Policy

## 1. Introduction

Reading is one of the core learning outcomes of primary education and constitutes an essential cross-cutting instrument for accessing knowledge throughout schooling. Poor reading proficiency limits academic performance and increases the risk of dropout at higher levels (Hernández, 2011). In Spanish-speaking and Latin American contexts, evidence indicates that early lexical and decoding skills are robust predictors of reading comprehension and later academic success (Mancilla-Martínez & Lesaux, 2010; Moncada Nahuelquín et al., 2025). These findings underscore the need to focus educational efforts not only on schooling itself but also on the quality of early reading development.

Although the most relevant variable of reading performance is reading comprehension, it is also important to understand the student's level of reading fluency, as this is related to the speed with which reading tasks can be performed and the amount of cognitive resources they require (Kahneman, 1973), and therefore may affect both academic performance and reading comprehension itself. Moreover, it is essential to assess the status of the variables that enable the development of reading comprehension. In this regard, the Simple View of Reading model (Gough

& Tunmer, 1986; Hoover & Gough, 1990) posits that reading comprehension results from multiplying an individual's oral comprehension ability by their decoding fluency, highlighting the relevance of assessing these two predictive variables. Furthermore, word decoding can be carried out through two distinct yet complementary routes: the lexical, or direct, route—where the word is identified as a whole image—and the phonological, or indirect, route—which requires segmenting the word, managing grapheme-phoneme conversions, and reconstructing the word (Coltheart et al., 2001; Coltheart & Rastle, 1994).

Within the framework of this model, several studies have identified psycholinguistic abilities that influence and even predict decoding learning in its early stages, such as phonological awareness (PA), which is more closely associated with decoding accuracy at the onset of reading acquisition (Míguez-Álvarez et al., 2022; National Reading Panel, 2000). Phonological awareness refers to the metalinguistic ability to recognize and manipulate the sounds of a language (Bradley & Bryant, 1983). In contexts of low reading performance, PA has been shown to be consistently related to reading achievement, even up to the fourth grade (Authors, n.d.; Authors, 2025), whereas in other contexts, its influence appears to be limited to preschool and the early years of primary education (Hogan et al., 2005). Other variables frequently mentioned include rapid automatized naming (RAN), typically associated with reading speed (Araújo et al., 2015; Lervåg & Hulme, 2009), and short-term verbal memory (Peng et al., 2018), although the influence of the latter is more controversial (Melby-Lervåg & Hulme, 2013), particularly in transparent orthographies such as Spanish (Caravolas et al., 2012). The other component of the Simple View of Reading model—the oral language comprehension factor—is associated with variables such as vocabulary and the understanding of grammatical structures (Ripoll-Salceda, 2010). Therefore, it seems relevant to assess not only reading performance variables but also those related to future reading acquisition.

In addition to psycholinguistic factors, socioeconomic status (SES) affects the quality of school learning through multiple pathways. This construct—understood as a measure of a family's access to economic, cultural, and educational resources (Tan et al., 2024)—influences fundamental aspects of cognitive development, such as the quality of nutrition (Gómez et al., 2021), which in turn impacts academic achievement (Wang et al., 2021; Zerga et al., 2022) and, in particular, reading performance. Nutritional improvement programs for children can have a significant impact on reading comprehension levels in adulthood (Maluccio et al., 2009). Moreover, most of the

mediation of the effect of socioeconomic status on academic performance appears to occur through its impact on components of executive functions, such as working memory, inhibition, cognitive flexibility, and processing speed (Ding et al., 2024; Mooney et al., 2024).

However, SES also influences reading development through factors specifically related to the acquisition of this skill. First, SES affects the home literacy environment (comprising variables such as book availability, the frequency of shared reading sessions, and literacy beliefs), which is directly associated with the quality of reading acquisition (Dong et al., 2020; Niklas & Schneider, 2017). Moreover, SES impacts the quality of the family linguistic environment (Dailey & Bergelson, 2022), which constitutes the main pre-literacy linguistic input the child receives. Thus, in addition to affecting the student's receptive vocabulary and oral comprehension, SES also influences the development of the psycholinguistic precursors of reading described earlier—such as phonological awareness, the primary mediator of the relationship between SES and reading development (Villa et al., 2025)—as well as cognitive flexibility and working memory. The existence of an SES impact on neurocognitive mechanisms associated with reading, such as rapid automatized naming (RAN), is more controversial (Carioti et al., 2022; Denckla & Rudel, 1974; Romeo et al., 2018), which aligns with the possibility that RAN has a more stable and hereditary nature (Andreola et al., 2021).

Another factor that influences students' reading development is the educational system in which they learn. In most countries around the world, there are general academic performance differences—and specifically in reading—between students in public and private schools, generally favoring the latter in secondary education (Cheema, 2024). Evidence is more abundant at the secondary level, largely due to the use of PISA assessments, although similar trends are observed in primary education, with the exception of the state of Uttar Pradesh in India, where reading performance is higher in the public sector (Pal, 2025). In Latin America, all countries show better reading performance in private schools (Duarte et al., 2010). After reanalyzing the results presented by these authors, we can estimate the gross gap in reading comprehension (without controlling for individual student variables) across the 14 studied countries at  $d = .66$  in third grade and  $d = .58$  in sixth grade—both medium-sized effects. In Panama, the gross difference reported in reading comprehension between the two systems is  $d = .32$  (small), although for other reading

performance variables such as accuracy and speed in text reading, the effects are large ( $d = .93$  and  $d = .85$ , respectively, in fourth grade, converting  $r$  to  $d$  from Authors, n.d.).

Evidence shows that a significant portion of the performance differences between students in public and private education systems can be attributed to the socioeconomic context of students' families. When these factors are controlled in studies examining reading performance differences at the primary level, the gaps decrease—and when additional school-related variables are also controlled (such as the school's socioeconomic level or exposure to violence), the differences even disappear in some cases (Duarte et al., 2010), although the specific reductions in effect size are not reported. At the secondary level, when socioeconomic differences between students are controlled, the Cohen's  $d$  value decreases from .81 to .51 in Peru, from .60 to .20 in Mexico, from .90 to .46 in Argentina, from .74 to .29 in Colombia, and from 1.10 to .51 in Costa Rica (converting partial  $\eta^2$  to  $d$  from Cheema, 2024).

The Dominican Republic exhibits a structurally low level of reading development, as repeatedly demonstrated by results from international assessments. In the 2022 PISA test, despite a partial recovery following a decline between 2015 and 2018, the country ranked last among the 14 evaluated Latin American and Caribbean nations, with only 25% of 15-year-old students reaching level 2 of reading proficiency, compared to the OECD average of 74% (OECD, 2024). At the primary level, the 2019 ERCE assessment concluded that 73% of third-grade and 84% of sixth-grade students did not reach the minimum level of reading proficiency (UNESCO, 2025).

On the other hand, although the Dominican Republic is not among the countries with the highest global socioeconomic inequality—with a Gini index of 39 in 2024 (World Bank, 2024)—inequality has been increasing since 2022, particularly in urban areas (Oficina Nacional de Estadística, 2024). Moreover, the concentration of 30.5% of the nation's wealth within the richest 1% is among the highest in the region (Alvaredo et al., 2022). The Palma ratio, which compares the income of the richest 10% to that of the poorest 40% of the population, has also risen, reaching 1.64 (Oficina Nacional de Estadística, 2024).

The purpose of this study was threefold: 1) To evaluate the difference in reading performance between both educational systems, calculating the size of the educational gap in reading; 2) To study the impact of socioeconomic variables on reading performance; and 3) To

estimate the impact of the educational system on reading performance, controlling for socioeconomic index.

## 2. Methodology

### 2.1. Participants

A total of 1,168 participants were evaluated, distributed across three grade-level groups: students at the end of 2nd grade and the beginning of 3rd grade ( $n = 380$ ), at the end of 4th grade and the beginning of 5th grade ( $n = 408$ ), and at the end of 6th grade and the beginning of 1st year of secondary education ( $n = 380$ ). Twelve public and fifteen private schools from the metropolitan area of Santo Domingo were randomly selected for participation (see Table 1 for sample stratification). The study was approved by the Research Ethics Committee of Universidad Iberoamericana (code CEI2024-24). After the legal guardians of the participants signed the informed consent form and the participants' assent was verified, their performance was assessed in two sessions of approximately 45 minutes each—the first including tasks of psycholinguistic precursors of reading, and the second assessing reading performance—by personnel specifically trained by the research team.

**Table 1.** Sample distribution by educational system, grade, and gender.

Gender	2 <sup>nd</sup> -3 <sup>rd</sup>		4 <sup>th</sup> -5 <sup>th</sup>		6 <sup>th</sup> -1 <sup>st</sup>		Total
	Public	Private	Public	Private	Public	Private	
Girls	115	101	117	106	94	106	639
Boys	81	83	96	89	100	80	529
Total	196	184	213	195	194	186	1168
	380		408		380		

### 2.2. Variables and instruments

#### 2.2.1. Psycholinguistic precursors of reading:

- Phonological Awareness (PA): Assessed through all phonological awareness subtests of the PROLEXIA battery (Cuetos et al., 2020), including the 3 subtests for children under 7 years of age and the 5 for those over 7. The total score across the 8 tasks was retained. The ordinal alpha coefficients of the subtests range from .76 to .94, according to the authors.

- Rapid Automatized Naming (RAN): Tests for naming colors, objects, numbers, and letters were constructed strictly following the gold standard procedures of Denckla & Rudel (1974).
- Short-Term Verbal Memory (STVM): Operationalized through a classical digit-span test, using the Auditory Sequential Memory subtest from the Illinois Test of Psycholinguistic Abilities (ITPA) by Kirk et al. (2004). Cronbach's alpha for the age range in the present study is between .85 and .87.
- Alphabetical Knowledge (AK): The Letter Name or Sound subtest from the PROLEC-R test (Cuetos et al., 2014) was used, retaining the accuracy measure (percentage of correctly named letters).

#### 2.2.2. Variables related to oral language:

- Vocabulary (VOC): To obtain a measure of receptive (comprehension) vocabulary, the PEABODY test (Dunn et al., 2006) was used, retaining the total score. For the age range included in the study, the test manual reports Cronbach's alpha values between .90 and .94.
- Grammatical Structure Comprehension (GSC): The CEG test (Mendoza et al., 2005) was used, with a Cronbach's alpha of .91; the total score was retained as the measure.
- Oral Comprehension (OC): The oral comprehension subtest from the PROLEC-R test (Cuetos et al., 2014) was employed.

#### 2.2.3. Reading performance variables:

- Syllable Reading Fluency: Based on the scores obtained in the Syllable Reading subtest of the ECLEC test (Authors, 2023), the number of syllables correctly read per minute was calculated. For the age range of this study, the subtest shows Cronbach's alpha values between .88 and .97.
- Word Reading Fluency (WR) and Pseudoword Reading Fluency (PWR): The Word Reading and Pseudoword Reading subtests from the PROLEC-R test (Cuetos et al., 2014) were used, respectively, with a derived calculation of correctly read words and pseudowords per minute. The overall PROLEC-R test has a Cronbach's alpha of .79.

- Text Reading Fluency (TR): Using the Text Comprehension subtest of the PROLEC-R, reading errors from the first three texts (first two for grades 2–3) were recorded, and the average number of correctly read words per minute was calculated. This measure is expected to be higher than WR, given the presence of functional words that children read automatically within a literary text.
- Reading Comprehension: Percentage of correct answers to questions about the first two texts (for grades 2–3) or the first three texts (for grades 4–5 and 6–1st year of secondary) from the Text Comprehension subtest of the PROLEC-R.

All socioeconomic variables were collected through a family questionnaire previously used in the country, with a McDonald's  $\Omega$  of .79 (Authors, 2025): Family income, Mother's educational level, Father's educational level, Internet connection at home, Number of children's books at home, Father living with child at home, Number of people at home/number of adults ratio, and Years of pre-primary education (the different possible values of these variables are shown in Table 2).

### ***2.3. Statistical analysis***

To describe the differences between public and private school students in the characterization of various socioeconomic variables, the Chi-square test was used when variables were ordinal, analyzing frequency distributions with proportions, and the Student's t-test was applied when variables were continuous, described by mean and standard deviation.

To achieve the objective of describing performance differences between public and private school systems across the various psycholinguistic, linguistic, and reading performance variables, since the grouping variable had only two categories, either the Student's t-test or Welch's t-test was applied as appropriate (the latter when the assumption of equal variances was violated according to the Brown-Forsythe test). The use of one test or the other can be identified by the presence of corrected degrees of freedom.

To achieve the second objective—determining which socioeconomic variables influence performance in reading fluency, vocabulary, and reading comprehension variables, and to what extent—linear regressions were employed. To verify whether belonging to specific socioeconomic

groups is associated with a higher risk of low reading performance, the relative risk tool was used, calculated with the following formula:

$$\frac{\text{Risk of the group exposed to a condition.}}{\text{Risk of the rest of the sample.}}$$

Finally, to calculate the size of the educational gap in reading while controlling for the effect of socioeconomic variables, ANCOVAs were conducted (with each of the studied variables as the dependent variable, the educational system as the fixed factor, and the socioeconomic variables as covariates). All analyses were performed using SPSS (v.27.0.1.0) and JASP (v.0.18.3).

### 3. Results

#### *Socioeconomic characterization of the sample*

As a preliminary step, students from public and private school systems were characterized according to the different socioeconomic variables, verifying the existence of differences between both groups. As shown in Table 2, significant differences were found in all variables related to the socioeconomic factor, both in the proportional differences of ordinal variables (family income, mother's and father's educational level, internet connection at home, number of children's books at home, and father living with the child) and in the mean differences of continuous variables (number of people/adults ratio at home and years of pre-primary education). In all cases, public school students showed lower levels of well-being across the different variables.

**Table 2.** Frequency distribution of socioeconomic variables, by educational system.

Variable	Level	Public	Private	Hypothesis test
<b>Family income</b>	0-19,000 DP <sup>1</sup>	45.4 %	9.4%	$\chi^2(4, N = 1168) = 395.46,$ $p < .001$
	19,000-28,000 DP	27.4 %	12.4%	
	28,000-38,000 DP	15.4 %	14.2%	
	38,000-68,000 DP	7.6 %	22.5%	
	>68,000 DP	4.1 %	41.6%	
<b>Mother's educational level</b>	Incomplete Primary Ed.	6.0 %	1.6%	$\chi^2(4, N = 1168) = 263.57,$ $p < .001$
	Primary Education	8.6 %	0.7%	
	Secondary Education	62.5 %	30.6%	
	Bachelor's Degree	21.6 %	49.9%	
	Postgraduate Degree	1.3 %	17.2%	
<b>Father's educational level</b>	Incomplete Primary Ed.	10.4 %	2.7%	$\chi^2(4, N = 1168) = 259.58,$ $p < .001$
	Primary Education	16.3 %	3.4%	

		Secondary Education	59.4 %	37.5%	
		Bachelor's Degree	12.3 %	43.5%	
		Postgraduate Degree	1.7 %	12.9%	
<b>Internet connection</b>	No		21.4 %	3.4%	$\chi^2(1, N = 1168) = 85.69,$ $p < .001$
	Yes		78.6 %	96.6%	
<b>Number of children's books at home</b>		0-5	60.5 %	25.8%	$\chi^2(3, N = 1168) = 184.45,$ $p < .001$
		6-10	29.5 %	36.3%	
		11-20	7.5 %	22.7%	
		>20	2.5 %	15.2%	
<b>Father living with child</b>	Yes		45.9 %	32.9%	$\chi^2(1, N = 1168) = 20.65,$ $p < .001$
	No		54.1 %	67.1%	
<b>Number of people/adults ratio</b>		Mean	2.57	2.22	$t(1165) = 6.726, p < .001,$ $d = .39$
		(SD)	(1.02)	(0.72)	
<b>Years of Pre-primary</b>		Mean	1.60	2.25	$t(1166) = -7.427, p < .001,$ $d = -.44$
		(SD)	(1.52)	(1.46)	

<sup>1</sup>DP: Dominican Pesos

*Objective 1: Evaluation of the difference in reading performance between both systems (Size of the educational gap in reading).*

For each of the variables representing precursor abilities of reading—whether those related to decoding (phonological awareness, RAN, short-term verbal memory, alphabetic knowledge) or purely linguistic variables (vocabulary, grammatical structure comprehension, or oral comprehension)—as well as for the reading performance variables (fluency in reading syllables, words, pseudowords, and texts, and reading comprehension), differences between public and private school students were examined. As shown in Table 3, in the psycholinguistic abilities that serve as precursors to reading (PA, RAN, and STVM), private school students show better performance (it should be noted that RAN variables are measured as total execution time, so higher values indicate poorer performance), with differences often of medium size (except in some grades for RAN abilities less associated with academic stimulation, such as color or object naming). In vocabulary, the advantage of private school students remains of medium size throughout primary school, approaching a large effect size in 4th grade.

Regarding reading abilities, the differences in decoding skills (reading of syllables, words, pseudowords, and texts) remain consistent throughout primary school in favor of private school students, with medium to large effect sizes. In the domain of reading comprehension, the magnitude of the difference appears to decrease over the course of primary education, starting at a medium level and ending at a small one.

Additionally, at the end of 2nd grade and the beginning of 3rd grade, 13.6% of participants from the private school system were unable to read texts (and therefore could not be evaluated on this task), whereas in the public school system, this percentage rose to 39.3%.

**Table 3.** Descriptive statistics and effect sizes for differences in performance on psycholinguistic precursors of reading and reading performance variables between public and private school students, by grade.

Variable	2°-3°				4°-5°				6°-1°S			
	Public $\bar{x}$ (SD) n=196	Private $\bar{x}$ (SD) n=184	Test	<i>d</i>	Public $\bar{x}$ (SD) n=213	Private $\bar{x}$ (SD) n=195	Test	<i>d</i>	Public $\bar{x}$ (SD) n=194	Private $\bar{x}$ (SD) n=186	Test	<i>d</i>
PA	40.96 (16.07)	52.17 (13.80)	$t(375.098)=7.571$ ; p<.001	<b>.78</b>	55.40 (14.82)	63.55 (11.62)	$t(396.838)=6.204$ ; p<.001	<b>.61</b>	58.28 (13.94)	65.45 (11.09)	$t(365.707)=5.559$ ; p<.001	<b>.57</b>
RAN C	61.16 (21.95)	56.84 (33.30)	n.s.	n.s.	50.08 (16.07)	42.89 (8.99)	$t(338.584)=-5.64$ ; p<.001	<b>-.55</b>	42.89 (11.23)	40.29 (24.93)	n.s.	n.s.
RAN O	73.70 (20.08)	71.00 (19.27)	n.s.	n.s.	61.13 (19.79)	57.99 (13.58)	n.s.	n.s.	54.69 (15.34)	50.48 (13.72)	$t(376.187)=2.824$ ; p<.01	<b>-.29</b>
RAN N	53.45 (25.24)	41.50 (11.21)	$t(272.709)=-6.032$ ; p<.001	<b>-.61</b>	37.71 (14.61)	30.69 (7.05)	$t(311.522)=-6.264$ ; p<.001	<b>-.61</b>	30.56 (8.10)	28.49 (10.35)	$t(378)=-2.173$ ; p<.05	<b>-.22</b>
RAN L	59.35 (29.93)	45.57 (16.87)	$t(311.309)=-5.57$ ; p<.001	<b>-.57</b>	39.90 (15.78)	32.71 (10.00)	$t(362.479)=-5.544$ ; p<.001	<b>-.54</b>	33.42 (10.66)	28.37 (9.75)	$t(378)=-4.816$ ; p<.001	<b>-.49</b>
STVM	3.83 (1.12)	4.13 (1.25)	$t(378)=2.45$ ; p<.05	<b>.25</b>	4.26 (1.29)	4.67 (1.24)	$t(406)=3.213$ ; p<.001	<b>.32</b>	4.48 (1.30)	5.03 (1.25)	$t(378)=4.226$ ; p<.001	<b>.43</b>
AK	74.72 (29.80)	89.19 (18.01)	$t(323.927)=5.766$ ; p<.001	<b>.59</b>	90.21 (15.21)	93.80 (11.37)	$t(390.719)=2.709$ ; p<.01	<b>.27</b>	93.51 (9.27)	95.62 (11.64)	$t(378)=1.962$ ; p<.05	<b>.20</b>
VOC	66.78 (12.62)	73.57 (12.13)	$t(377.795)=5.344$ ; p<.001	<b>.55</b>	79.98 (13.27)	90.54 (14.39)	$t(406)=7.716$ ; p<.001	<b>.77</b>	87.36 (13.91)	97.43 (13.59)	$t(378)=7.13$ ; p<.001	<b>.73</b>
GSC	58.89 (9.11)	62.26 (9.09)	$t(378)=3.599$ ; p<.001	<b>.37</b>	64.31 (7.65)	65.84 (8.55)	n.s.	n.s.	65.52 (8.18)	68.01 (7.36)	$t(378)=3.108$ ; p<.01	<b>.32</b>
OC	41.07 (23.55)	46.13 (23.98)	$t(378)=2.073$ ; p<.05	<b>.21</b>	47.89 (23.29)	55.19 (24.20)	$t(406)=3.106$ ; p<.01	<b>.31</b>	50.84 (24.31)	54.97 (26.90)	n.s.	n.s.
SR	26.90 (26.99)	50.07 (29.33)	$t(378)=8.02$ ; p<.001	<b>.82</b>	54.07 (30.08)	78.91 (29.45)	$t(406)=8.417$ ; p<.001	<b>.83</b>	63.30 (30.76)	87.14 (31.39)	$t(378)=7.477$ ; p<.001	<b>.77</b>
WR	15.99 (19.91)	33.00 (21.29)	$t(377)=8.041$ ; p<.001	<b>.83</b>	39.23 (24.46)	59.51 (24.19)	$t(406)=8.413$ ; p<.001	<b>.83</b>	49.64 (25.39)	70.65 (25.31)	$t(378)=8.076$ ; p<.001	<b>.83</b>
PWR	12.95 (16.93)	22.10 (13.98)	$t(377)=5.718$ ; p<.001	<b>.59</b>	25.88 (14.56)	40.94 (38.48)	$t(406)=5.31$ ; p<.001	<b>.53</b>	33.03 (17.94)	45.30 (20.10)	$t(378)=6.28$ ; p<.001	<b>.64</b>
TR	36.01 (42.93)	67.12 (45.54)	$t(378)=6.854$ ; p<.001	<b>.70</b>	78.77 (46.17)	115.66 (43.01)	$t(406)=8.329$ ; p<.001	<b>.83</b>	100.32 (48.85)	136.09 (42.26)	$t(378)=7.619$ ; p<.001	<b>.78</b>
RC	26.04 (31.51)	44.88 (31.16)	$t(378)=5.856$ ; p<.001	<b>.60</b>	47.28 (30.24)	61.00 (25.53)	$t(403.386)=4.966$ ; p<.001	<b>.49</b>	52.19 (29.45)	59.50 (27.33)	$t(378)=2.505$ ; p<.05	<b>.26</b>

PA: Phonological Awareness; RAN C: Rapid automatized naming for colors; RAN O: Rapid automatized naming for objects; RAN N: Rapid automatized naming for numbers; RAN L: Rapid automatized naming for letters; VOC: Vocabulary; STVM: Short term verbal memory; GSC: Grammatical structures comprehension; OC: Oral comprehension; AK: Alphabetical knowledge; SR: Syllable reading; WR: Word reading; PWR: Pseudoword reading; TR: Text reading; RC: Reading comprehension.  
n.s.: Not significant

*Objective 2: Study of the impact of socioeconomic variables on reading performance.*

Linear regression models showed that the only variable that consistently predicted reading fluency (words correctly read per minute) across all grades was family income. In grades 2–3, paternal educational level and years of pre-primary education were also significant, though with weaker effects (Table 4). In grades 4–5, maternal educational level emerged alongside family income, with a similar level of influence. The variance in reading fluency explained by the set of socioeconomic variables remained around 19% between grades 2–3 and 4–5 but decreased to 16.1% in grades 6–1st year of secondary education.

**Table 4.** Influence of socioeconomic variables on text reading fluency.

Variable	2 <sup>o</sup> -3 <sup>o</sup>		4 <sup>o</sup> -5 <sup>o</sup>		6 <sup>o</sup> -1 <sup>o</sup> S	
	$F(8;379)=12.109, p<.001$ $R^2 \text{ Adj}=.19$		$F(8;407)=12.835, p<.001$ $R^2 \text{ Adj}=.189$		$F(8;378)=10.064, p<.001$ $R^2 \text{ Adj}=.161$	
	Beta	Std $p$	Beta	Std $p$	Beta	Std $p$
Mother's educational level	-	-	.18	<0.01	-	-
Father's educational level	.15	<0.05	-	-	-	-
Family Income	.20	<0.01	.17	<0.01	.30	<0.001
Number of children's books	-	-	-	-	-	-
Years of pre-primary	.10	<0.05	-	-	-	-
Number of people e/adults	-	-	-	-	-	-
Father living with child	-	-	-	-	-	-
Internet at home	-	-	-	-	-	-

The variable vocabulary was selected as representative of the oral language component. When examining the socioeconomic variables influencing vocabulary, family income once again emerged as significant across all grades. In grades 4–5, maternal educational level also became a predictor, with greater influence. In grades 6–1st year of secondary school, the number of children's books at home and the presence of internet access at home also appeared as predictors, though with weaker effects (Table 5). The explanatory power of socioeconomic variables for vocabulary increased steadily throughout primary school (from 12.5% in grades 2–3 to 16.9% in grades 6–1st year of secondary school).

**Table 5.** Influence of socioeconomic variables on vocabulary level.

Variable	2 <sup>o</sup> -3 <sup>o</sup>		4 <sup>o</sup> -5 <sup>o</sup>		6 <sup>o</sup> -1 <sup>o</sup> S	
	$F(8;379)=7.767, p<.001$ $R^2 \text{ Adj}=.125$		$F(8;407)=10.424, p<.001$ $R^2 \text{ Adj}=.156$		$F(8;378)=, p<.001$ $R^2 \text{ Adj}=.169$	
	Beta	Std $p$	Beta	Std $p$	Beta	Std $p$

<b>Mother's educational level</b>	-	-	.20	<0.001		
<b>Father's educational level</b>	-	-				
<b>Family Income</b>	.16	<0.05	.17	<0.01	.19	<0.01
<b>Number of children's books</b>	-	-	-	-	.11	<0.05
<b>Years of preschool</b>	-	-	-	-		
<b>Number of people/adults</b>	-	-	-	-		
<b>Father living with child</b>	-	-	-	-		
<b>Internet at home</b>	-	-	-	-	.10	<0.05

Table 6 presents the results of the linear regression with reading comprehension as the dependent variable and socioeconomic variables as independent predictors. A significant model could not be obtained for grades 6–1st year of secondary school. Once again, family income emerged as a predictor in grades 2–3 and 4–5, with maternal educational level and years of pre-primary education added as predictors of similar importance in grades 4–5.

In contrast to vocabulary, the proportion of variance in reading comprehension explained by socioeconomic variables decreases throughout primary school, starting at 14.9% and eventually becoming non-significant in grades 6–1st year of secondary school.

**Table 6.** Influence of socioeconomic variables on reading comprehension.

Variable	2°-3°		4°-5°		6°-1°S	
	$F(8;379)=9.325, p<.001$		$F(8;407)=4.851, p<.001$		-	
	$R^2 \text{ Adj}=.149$		$R^2 \text{ Adj}=.07$			
	Beta	Std	Beta	Std	Beta	Std
<b>Mother's educational level</b>	-	-	.15	<0.05	-	-
<b>Father's educational level</b>	-	-	-	-	-	-
<b>Family Income</b>	.27	<0.001	.14	<0.05	-	-
<b>Number of children's books</b>	-	-	-	-	-	-
<b>Years of preschool</b>	-	-	.11	<0.05	-	-
<b>Number of people/adults</b>	-	-	-	-	-	-
<b>Father living with child</b>	-	-	-	-	-	-
<b>Internet at home</b>	-	-	-	-	-	-

On the other hand, the relative risk (RR) of having low text reading fluency (1st quartile) for students belonging to the lowest income group (28% of the sample) is 2.2—that is, students from low-income families are more than twice as likely to exhibit low reading fluency. Similarly, students whose mothers have a low educational level (primary education completed or not completed) are 2.54 times more likely to have low text reading fluency. In the domain of reading comprehension, the 28% of the sample with low income has a 1.53 times higher risk of poor

reading comprehension (1st quartile), while having a mother with a low educational level increases this risk by 1.54 times.

*Objective 3: Estimation of the impact of the educational system on reading performance, controlling for socioeconomic index.*

To isolate the effect of the educational system on reading performance from that of socioeconomic conditions—given that the public system serves students from more vulnerable families (Table 2)—an ANCOVA was conducted for each outcome variable at each grade level to calculate the performance difference between both educational systems while controlling for socioeconomic status (Table 7). In the psycholinguistic variables that are precursors to reading, the differences between systems tended to decrease considerably (large effects became medium or small, and medium effects became small), if not disappear altogether. Overall, differences in oral language variables (vocabulary, grammatical structure comprehension, and oral comprehension) tended to disappear (except for vocabulary). Regarding reading performance, in grades 2–3, the differences in syllable and word reading became small, while differences in pseudoword and text reading, as well as in reading comprehension, disappeared. In grades 4–5 and 6–1st year of secondary school, although to a lesser extent, the magnitude of the differences decreased substantially (for example, the difference in reading comprehension in grades 6–1st year of secondary school ceased to be significant). However, medium effect sizes tended to persist in the decoding fluency variables.

**Table 7.** Effect of the type of education on each reading performance variable, controlling for socioeconomic variables (ANCOVA).

Variable	2°-3°				4°-5°				6°-1°S			
	ANOVA	<i>p</i> <sub>bonf</sub>	<i>d</i>	<i>d</i> ( <i>wc</i> <sup>1</sup> )	ANCOVA	<i>p</i> <sub>bonf</sub>	<i>d</i>	<i>d</i> ( <i>wc</i> <sup>1</sup> )	ANCOVA	<i>p</i> <sub>bonf</sub>	<i>d</i>	<i>d</i> ( <i>wc</i> <sup>1</sup> )
PA	F(1,372)=13.388	<.001	<b>.49</b>	.78	F(1,400)=6.452	.011	<b>.32</b>	.61	n.s.	n.s.	n.s.	.57
RAN C	n.s.	n.s.	n.s.	n.s.	F(1,400)=5.308	.022	<b>-.29</b>	-.55	n.s.	n.s.	n.s.	n.s.
RAN O	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-.29
RAN N	F(1,372)=9.935	.002	<b>-.42</b>	-.61	F(1,400)=12.557	<.001	<b>-.44</b>	-.61	n.s.	n.s.	n.s.	-.22
RAN L	F(1,372)=7.016	.008	<b>-.35</b>	-.57	F(1,400)=5.650	.018	<b>-.30</b>	-.54	n.s.	n.s.	n.s.	-.49
STVM	n.s.	n.s.	n.s.	.25	n.s.	n.s.	n.s.	.32	F(1,372)=6.026	.015	<b>.33</b>	.43
AK	F(1, 372)=4.345	.038	<b>.28</b>	.59	n.s.	n.s.	n.s.	.27	n.s.	n.s.	n.s.	.20
VOC	n.s.	n.s.	n.s.	.55	F(1,400)=10.518	.001	<b>.41</b>	.77	F(1,372)=4.270	.039	<b>.28</b>	.73

<b>GSC</b>	n.s.	n.s.	n.s.	.37	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	.32
<b>OC</b>	n.s.	n.s.	n.s.	.21	n.s.	n.s.	n.s.	.31	n.s.	n.s.	n.s.	n.s.
<b>SR</b>	F(1, 372)=7.926	.005	<b>.38</b>	.82	F(1,400)=31.487	<.001	<b>.70</b>	.83	F(1,372)=14.817	<.001	<b>.51</b>	.77
<b>WR</b>	F(1, 371)=5.080	.025	<b>.30</b>	.83	F(1,400)=16.109	<.001	<b>.50</b>	.83	F(1,372)=13.232	<.001	<b>.49</b>	.83
<b>PWR</b>	n.s.	n.s.	n.s.	.59	F(1,400)=12.166	<.001	<b>.44</b>	.53	F(1,372)=14.008	<.001	<b>.50</b>	.64
<b>TR</b>	n.s.	n.s.	n.s.	.70	F(1,400)=11.483	<.001	<b>.42</b>	.83	F(1,372)=8.373	.004	<b>.39</b>	.78
<b>RC</b>	n.s.	n.s.	n.s.	.60	F(1,400)=5.841	.016	<b>.30</b>	.49	n.s.	n.s.	n.s.	.26

PA: Phonological Awareness; RAN C: Rapid automatized naming for colors; RAN O: Rapid automatized naming for objects; RAN N: Rapid automatized naming for numbers; RAN L: Rapid automatized naming for letters; VOC: Vocabulary; STVM: Short term verbal memory; GSC: Grammatical structures comprehension; OC: Oral comprehension; AK: Alphabetical knowledge; SR: Syllable reading; WR: Word reading; PWR: Pseudoword reading; TR: Text reading; RC: Reading comprehension.

n.s.: Not significant

<sup>1</sup> Cohen's *d* without controlling SES variables, taken from Table 3.

#### 4. Discussion

The results revealed significant performance differences between students from public and private schools across nearly all evaluated variables. Overall, students from the private sector demonstrated higher performance in psycholinguistic, linguistic, and reading skills, with medium to large effect sizes—particularly in reading fluency. In the public system, 4 out of 10 children assessed were unable to read texts by the end of 2nd grade or the beginning of 3rd grade, a concerning proportion that is three times higher than that of the private system. Linear regression analyses showed that family income was the most consistent predictor of reading performance, vocabulary, and reading comprehension, although other factors, such as parental educational level, also showed specific influences depending on grade level. Children from low-income families and those whose mothers have a low educational level are more than twice as likely to exhibit low reading fluency.

When controlling for socioeconomic variables, much of the difference between educational systems decreased or disappeared—especially in reading comprehension and linguistic abilities—suggesting that socioeconomic context accounts for a substantial portion of the gap between public and private systems, primarily linked to structural inequalities (OECD, 2024; Acevedo et al., 2023). Nevertheless, some differences persisted, particularly in measures of reading fluency, indicating a possible residual effect of the educational system on the development of certain reading skills.

It is noteworthy that the differences in reading performance in grades 2–3, once SES is controlled, are small or even nonexistent for certain variables. This suggests that the type of

educational system has not yet produced the substantial differences that emerge later. However, at this grade level, differences appear in the main predictors of future reading performance: PA and AK (predictors of reading accuracy) and RAN for numbers and letters (predictors of reading speed). This could help explain, at least partially, the marked differences that emerge in reading performance in grades 4–5, since although in countries with higher levels of educational development PA and AK are no longer predictors of future reading performance by grades 2 or 3, in this type of context the dependence on PA remains strong, even up to grade 4 (Authors, n.d.; Authors, 2025).

The effect sizes of the raw differences in reading comprehension— $d = .49$  in grades 3–4 and  $d = .26$  in grades 6–1st year of secondary—are smaller than those reported by Duarte et al. (2010), although the time elapsed may affect the comparability of these values. Furthermore, when controlling for socioeconomic variables, the effect of the type of education on reading performance appears to increase from grade 2 to grade 4, and then decrease again by grade 6 (in the case of reading comprehension, it is significant only in grade 4). This may reflect the cumulative effect of a school system that fails to compensate for structural interfamily differences, while the slight decline in the difference observed in grade 6 may be due to the fact that socioeconomically vulnerable students tend to be those with the lowest academic performance. This could result in a lag among these students, potentially leading to voluntary or involuntary dropout from the educational system—although these hypotheses should be confirmed by studies specifically designed for that purpose (perhaps longitudinal in nature).

The proportion by which the gap in the different reading performance variables decreases when controlling for SES is consistent with what has been reported in secondary education through PISA assessments, since in most Latin American countries the gap is reduced by approximately half (Cheema, 2024).

Once the effect of SES is excluded, differences in receptive vocabulary levels are found in grades 4–5 and 6–1st year of secondary, but not in grades 2–3. Regardless of the factors explaining the reading gap between systems, it is important to remember that reading is one of the main mechanisms for lexical acquisition once it becomes functional. Therefore, lower reading performance may account for reduced vocabulary growth in the medium term. It would be advisable to specifically study the impact of this phenomenon.

Additionally, this study may contribute to the debate on the more “biological” or innate nature of RAN. The fact that differences in RAN performance between educational systems persist after controlling for SES could contradict the innatist hypothesis (Andreola et al., 2021; Carioti et al., 2022). However, it should be noted that the only differences that remain are found in alphanumeric RAN variables, which are based on the processing of learned tokens (numbers and letters) and are therefore more specifically related to instruction and potentially more strongly associated with the quality and quantity of stimulation received at school.

Another relevant finding is that public school students begin primary education with a lower average number of years of pre-primary education. Therefore, in addition to the effects of family socioeconomic factors—which influence the quality and quantity of linguistic stimulation and the availability of reading materials and shared reading sessions at home—there is also reduced school-based stimulation. This combination limits the potential to compensate for such adverse factors and may contribute to perpetuating the educational gap. In this regard, the country’s public education system, both at the pre-primary and primary levels, does not appear to be fulfilling its expected role as a compensator for preexisting differences related to students’ material and familial stimulation conditions, thereby hindering its function as a social elevator.

## **5. Recommendations**

One of the key findings of this study is that students in the public education system in the Dominican Republic begin primary school with less time spent in pre-primary education compared to those in the private system. The years of pre-primary education serve, among other purposes, to foster language development and stimulate the foundational skills required for reading acquisition. It is necessary to continue the ongoing national effort to universalize pre-primary education, as it is essential for building the foundation of future reading learning. Additionally, public early education should strengthen the stimulation of the essential skills underlying decoding and reading comprehension that were found to be underdeveloped in 2nd grade in the present study: phonological awareness, alphabetic knowledge, vocabulary, and grammatical structure comprehension. Although no significant differences were found between systems in the latter two skills once SES was controlled, schools should play a compensatory role in addressing disparities created by students’ contextual backgrounds.

Furthermore, it is essential to address the educational emergency represented by the fact that 2 out of every 5 students in public schools lack functional reading ability at the transition between 2nd and 3rd grade. This situation, in addition to requiring systematic and early detection systems for low decoding levels (before comprehension difficulties become evident), demands the implementation of early and progressive support mechanisms with increasing levels of individualized attention—such as those proposed by the Response to Intervention (RtI) model—which has accumulated extensive evidence regarding its effectiveness (Burns et al., 2005).

## **6. Limitations**

Although a random sample of schools was used, all were located exclusively in the metropolitan area of Santo Domingo (35% of the country's population). In the future, it would be advisable to include representative samples from other regions of the country.

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## **Author contribution**

DCB contributed to conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, supervision, writing – original draft, writing – review and editing.

HMS contributed to conceptualization, formal analysis, funding acquisition, investigation, methodology, writing – original draft, writing – review and editing.

JAA contributed to formal analysis, supervision, writing – review and editing

BRR contributed to formal analysis, supervision, writing – original draft, writing – review and editing

LVSV contributed to conceptualization, formal analysis, funding acquisition, investigation, methodology, writing – original draft, writing – review and editing.

### **Declaration of generative AI and AI-assisted technologies in the manuscript preparation process**

During the preparation of this work the authors used ChatGPT-5 to ensure the quality of the English writing. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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Versión en español

## Brecha lectora en República Dominicana: ¿Es el sistema educativo o la vulnerabilidad socioeconómica?

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### Resumen

Este estudio examinó las diferencias en el rendimiento lector entre estudiantes de escuelas públicas y privadas en la República Dominicana—un país con históricamente bajos niveles de logro en lectura en evaluaciones internacionales—y exploró la influencia de los factores socioeconómicos sobre dichos resultados. Se evaluó a un total de 1,168 estudiantes desde segundo grado hasta el inicio de la educación secundaria mediante instrumentos estandarizados que midieron precursores psicolingüísticos de la lectura (conciencia fonológica, denominación automática rápida, memoria verbal a corto plazo y conocimiento alfabético), habilidades del lenguaje oral (vocabulario, comprensión gramatical y comprensión oral) y desempeño lector (fluidez y comprensión). Los resultados revelaron diferencias significativas de rendimiento entre los estudiantes de escuelas públicas y privadas en casi todas las variables, con tamaños del efecto medios a grandes a favor del sistema privado, especialmente en la fluidez lectora. Los análisis de regresión lineal identificaron el ingreso familiar como el predictor más consistente de la fluidez, el vocabulario y la comprensión lectora, mientras que el nivel educativo de los padres mostró efectos específicos según el grado escolar. Al controlar el nivel socioeconómico (NSE), la mayoría de las diferencias entre sistemas se redujeron o desaparecieron, especialmente en comprensión y habilidades lingüísticas, lo que sugiere que el NSE explica gran parte de la brecha educativa asociada a desigualdades estructurales. Sin embargo, persistieron tamaños del efecto medios en la fluidez de decodificación, lo que indica un posible impacto residual del sistema educativo. Los hallazgos subrayan la urgente necesidad de fortalecer la enseñanza inicial de la lectura y garantizar el acceso

universal a una educación preescolar de alta calidad, dado que el 40 % de los estudiantes de escuelas públicas carece de una lectura funcional al final del segundo grado. Estos resultados destacan la importancia de políticas educativas orientadas a mitigar las inequidades estructurales y promover un desarrollo lector equitativo en la República Dominicana.

**Palabras clave:** Rendimiento lector; Nivel socioeconómico; Desarrollo de la alfabetización; Brecha educativa; Sistemas educativos; Política educativa

## Introducción

La lectura es uno de los aprendizajes centrales de la educación primaria y constituye el instrumento transversal esencial para el acceso al conocimiento a lo largo de toda la escolarización. Un dominio lector deficiente limita el rendimiento escolar y aumenta el riesgo de abandono en niveles superiores (Hernández, 2011). En contextos hispanohablantes y latinoamericanos, la evidencia indica que las habilidades léxicas y de decodificación tempranas son predictores robustos de la comprensión lectora y del éxito académico posterior (Mancilla-Martínez & Lesaux, 2010; Moncada Nahuelquín et al., 2025). Estos hallazgos refuerzan la necesidad de enfocar los esfuerzos educativos no solo en la escolarización, sino en la calidad del desarrollo lector temprano.

Aunque la variable más relevante del rendimiento lector es la comprensión lectora, también es relevante conocer el nivel de fluidez de la lectura del estudiante, ya que esta se relaciona con la velocidad con la que puede realizar tareas de lectura y la cantidad de recursos cognitivos que estas le suponen (Kahneman, 1973) y, por tanto, puede afectar al rendimiento académico y a la misma comprensión lectora. Además, es relevante conocer el estado de las variables que permitirán el desarrollo de la comprensión lectora. En este sentido, el modelo de la Concepción Simple de la Lectura (*Simple View of Reading*, Gough & Tunmer, 1986; Hoover & Gough, 1990) postula que la comprensión lectora es el resultado de multiplicar la capacidad de comprensión oral del individuo con su fluidez en la decodificación, por lo que parece relevante evaluar estas dos variables predictoras. A su vez, la decodificación de la palabra se puede ejecutar por dos rutas diferenciadas, aunque complementarias: la ruta léxica, o directa, en la que se identifica la palabra como una imagen de conjunto, y la ruta fonológica, o indirecta, que requiere de una segmentación de la palabra, el manejo de conversiones grafema-fonema y la recomposición de la palabra (Coltheart et al., 2001; Coltheart & Rastle, 1994).

En el marco de este modelo, diversas investigaciones han identificado capacidades psicolingüísticas que influyen en el aprendizaje de la decodificación e incluso lo predicen en sus etapas iniciales, como la conciencia fonológica (PA), más relacionada con la precisión de la decodificación en el inicio del aprendizaje (Míguez-Álvarez et al., 2022; National Reading Panel, 2000). La conciencia fonológica se refiere a la habilidad metalingüística de reconocer y manipular los sonidos del idioma (Bradley & Bryant, 1983). En contextos de bajo rendimiento lector, la PA ha demostrado estar relacionada con el rendimiento lector de forma persistente, incluso hasta 4º grado (Cubilla-Bonnetier, Marte-Santana et al., n.d.; Cubilla-Bonnetier & Sánchez-Vincitore, 2025), cuando en otros contextos parece influir solamente en la educación infantil y en el inicio de la primaria (Hogan et al., 2005). También se mencionan frecuentemente la velocidad de denominación automatizada rápida (RAN), habitualmente relacionada con la velocidad lectora (Araújo et al., 2015; Lervåg & Hulme, 2009), y la memoria verbal a corto plazo (Peng et al., 2018), aunque la influencia de esta variable es más controvertida (Melby-Lervåg & Hulme, 2013), especialmente en lenguas de ortografía transparente, como el español (Caravolas et al., 2012). Por su parte, el otro componente del modelo de la Concepción Simple de la Lectura, el factor de la comprensión del lenguaje oral se relaciona con variables como el vocabulario y la comprensión de estructuras gramaticales (Ripoll-Salceda, 2010). Por ello, parece relevante evaluar no sólo las variables de rendimiento lector, sino también las relacionadas con el aprendizaje lector futuro.

Además de los factores psicolingüísticos, el estatus socioeconómico (SES) afecta a la calidad del aprendizaje escolar por múltiples vías. Este constructo, entendido como una medida del acceso familiar a recursos económicos, culturales y educativos (Tan et al., 2024), incide en aspectos básicos del desarrollo cognitivo, como la calidad de la nutrición (Gómez et al., 2021), que repercute en los logros académicos (Wang et al., 2021; Zerga et al., 2022) y, en particular, en la lectura. Un programa de mejora de la nutrición en niños puede tener un impacto significativo en el nivel de comprensión lectora en la edad adulta (Maluccio et al., 2009). Por otra parte, la mayor parte de la mediación del efecto del estatus socioeconómico sobre el rendimiento académico parece hacerse a través del impacto que tiene sobre componentes de las funciones ejecutivas, como la memoria de trabajo, la inhibición, la flexibilidad cognitiva y la velocidad de procesamiento (Ding et al., 2024; Mooney et al., 2024).

Pero el SES también influye sobre el desarrollo lector a través de factores relacionados específicamente con el desarrollo de esta habilidad. En primer lugar, el SES impacta sobre el factor del ambiente alfabetizador del hogar (compuesto por variables como la disponibilidad de libros, la abundancia sesiones de lectura compartida o las creencias sobre alfabetización), que a su vez está directamente relacionado con la calidad del aprendizaje lector (Dong et al., 2020 Niklas & Schneider, 2017). Por otra parte, el SES tiene un impacto sobre la calidad del ambiente lingüístico familiar (Dailey & Bergelson, 2022), que es el principal input lingüístico prelector que recibe el estudiante. De esta forma, además de afectar al nivel de vocabulario receptivo y a la comprensión oral del estudiante, el SES influye en el desarrollo de los precursores psicolingüísticos de la lectura descritos anteriormente, como la conciencia fonológica, principal mediador de la relación entre SES y desarrollo lector (Villa et al., 2025), la flexibilidad cognitiva o la memoria de trabajo. La existencia de un impacto del SES sobre mecanismos neurocognitivos asociados a la lectura como el RAN es más controvertida (Carioti et al., 2022; Denckla & Rudel, 1974; Romeo et al., 2018), lo cual es coherente con la posibilidad de que el RAN tenga un carácter más estable y hereditario (Andreola et al., 2021).

Otro de los factores que influyen en el desarrollo lector de los estudiantes es el sistema educativo en el que aprenden. En la mayor parte de los países del mundo existen diferencias de rendimiento académico general, y lector en concreto, entre los estudiantes del sistema público y los del sistema privado, generalmente a favor de estos últimos en la educación secundaria (Cheema, 2024). La evidencia es más abundante en secundaria gracias al uso de las pruebas PISA, aunque en primaria la tendencia es similar, con la excepción del estado de Uttar Pradesh en India, donde el rendimiento lector es superior en el sector público (Pal, 2025). En Latinoamérica, todos los países presentan mejor rendimiento lector en las escuelas privadas (Duarte et al., 2010). Tras reelaborar los resultados ofrecidos por estos autores podemos estimar el tamaño de la brecha bruta en comprensión lectora (sin controlar variables personales del estudiante) en el conjunto de los 14 países estudiados en  $d=.66$  en 3º y  $d=.58$  en 6º, es decir de tamaño mediano. En Panamá, la diferencia bruta reportada en comprensión lectora entre ambos sistemas es de  $d=.32$  (pequeña), aunque en otras variables de rendimiento lector, como precisión y velocidad en la lectura de textos es de tamaño grande (.93 y .85 respectivamente en 4º grado, convirtiendo  $r$  en  $d$  de Cubilla-Bonnetier, D'Alfonso et al., n.d.).

La evidencia muestra que una parte significativa de las diferencias de rendimiento entre los estudiantes del sistema educativo público y los del privado se debe al contexto socioeconómico de las familias de los estudiantes, puesto que, cuando estos factores son controlados en el estudio de las diferencias de rendimiento lector en grados de primaria, las diferencias se reducen, e incluso, cuando se controlan, además, variables relacionadas con la escuela (nivel socioeconómico de la escuela, exposición a violencia, entre otras, llegan a desaparecer en algunos casos (Duarte et al., 2010), aunque no se reportan las reducciones del tamaño del efecto concretas. En secundaria, al controlar las diferencias socioeconómicas entre los estudiantes, la diferencia en la  $d$  de Cohen se reduce de .81 a .51 en Perú, .6 a .2 en México, de .9 a .46 en Argentina, .74 a .29 en Colombia o de 1.1 a .51 en Costa Rica (convirtiendo  $\eta^2$  parcial en  $d$  de Cheema, 2024).

República Dominicana tiene un bajo desarrollo lector estructural, como lo muestran reiteradamente los resultados obtenidos en las pruebas internacionales. En la prueba PISA 2022, a pesar de cierta recuperación tras una caída entre 2015 y 2018, el país ocupa el último lugar entre los 14 países de Latinoamérica-Caribe evaluados, con solo 25% de los estudiantes de 15 años en el nivel 2 de competencia lectora, mientras que la OCDE promedia 74% (OECD, 2024). En primaria, la prueba ERCE 2019 concluye que el 84% de los estudiantes de 6° no alcanzan el nivel mínimo de competencia lectora, ocupando el 13° puesto de los 16 países participantes (UNESCO, 2025).

Por otro lado, aunque no es de los países con mayor desigualdad socioeconómica global, con un índice Gini de 39 en 2024 (World Bank, 2024), esta está creciendo desde 2022, especialmente en entornos urbanos (Oficina Nacional de Estadística, 2024), y la concentración del 30.5% de la riqueza en el 1% más rico es de las mayores de la región (Alvaredo et al., 2022). También aumenta el índice de Palma, que compara el ingreso del 10% más rico con el 40% más pobre de la población, situado en 1.64 (Oficina Nacional de Estadística, 2024).

El propósito de este trabajo fue triple: 1) Evaluar la diferencia de rendimiento lector entre ambos sistemas educativos, calculando el tamaño de la brecha educativa en lectura; 2) Estudiar el impacto de las variables socioeconómicas en el rendimiento lector; y 3) Estimar el impacto del sistema educativo en el rendimiento lector, controlando por índice socioeconómico.

## Método

### *Participantes*

Se evaluó a 1168 participantes de 3 grupos por nivel escolar: estudiantes de final de 2° grado y inicio de 3° (n=380), de final de 4° grado (n=408) e inicio de 5°, y final de 6° e inicio de 1° de secundaria (n=380). Para ello, se seleccionó aleatoriamente 12 centros educativos públicos y 15 privados de la zona metropolitana de Santo Domingo (ver Tabla 1 para estratificación de la muestra). El estudio contó con el aval del Comité de Ética de la Investigación de la Universidad Iberoamericana (código CEI2024-24). Tras la firma del documento de consentimiento informado por parte de los responsables legales de los participantes y de comprobar el asentimiento de estos, se procedió a una evaluación de su desempeño, en dos sesiones de aproximadamente 45 minutos (la primera con tareas de precursores psicolingüísticos de la lectura y la segunda de rendimiento lector) por parte de personal expresamente capacitado por el equipo de investigación.

**Tabla 1.** Distribución de la muestra, por sistema educativo, grado y género

Gender	2 <sup>nd</sup> -3 <sup>rd</sup>		4 <sup>th</sup> -5 <sup>th</sup>		6 <sup>th</sup> -1 <sup>st</sup>		Total
	Public	Private	Public	Private	Public	Private	
Girls	115	101	117	106	94	106	639
Boys	81	83	96	89	100	80	529
Total	196	184	213	195	194	186	1168
	380		408		380		

### *Variables e instrumentos*

Precursores psicolingüísticos de la lectura:

- Conciencia fonológica (PA): se evaluó mediante todas las subpruebas de conciencia fonológica de la batería PROLEXIA (Cuetos et al., 2020), las 3 de <7 años y las 5 de >7. Se retuvo la suma total de puntuaciones de las 8 tareas. El alfa ordinal de todas las subpruebas está entre .76 y .94, según los autores.
- Rapid Automatized Naming (RAN): se construyeron pruebas de nombrado de colores, objetos, números y letras siguiendo fielmente las instrucciones del gold standard de Denckla & Rudel (1974).

- Memoria verbal a corto plazo (STVM): se operativizó a través de una prueba clásica de span de dígitos, empleando el Auditory Sequential Memory subtest del Illinois Test of Psycholinguistic Abilities (ITPA), de Kirk et al. (2004). El alfa de Cronbach para las edades del presente estudio está entre .85 y .87.
- Conocimiento alfabético (AK): Se empleó la subprueba Nombre o Sonido de Letras de la prueba PROLEC-R (Cuetos et al., 2014), reteniendo la medida de precisión (porcentaje de letras correctamente nombradas).

#### VARIABLES RELACIONADAS CON EL LENGUAJE ORAL:

- Vocabulario (VOC): para obtener una medida del vocabulario receptivo (comprensivo), se empleó la prueba PEABODY (Dunn et al., 2006), reteniendo la puntuación total. En las edades del estudio, el manual de la prueba declara alfas de Cronbach entre .90 y .94.
- Comprensión de estructuras gramaticales (GSC): se empleó la prueba CEG (Mendoza et al., 2005), con un alfa de Cronbach de .91, reteniendo como medida la puntuación total.
- Comprensión del lenguaje oral (OC): se empleó la subprueba de comprensión oral de la prueba PROLEC-R (Cuetos et al., 2014).

#### VARIABLES DE RENDIMIENTO LECTOR:

- Fluidez de lectura de sílabas: a partir de las puntuaciones obtenidas en la subprueba de Lectura de Sílabas de la prueba ECLEC (Cubilla-Bonnetier & Sánchez-Vincitore, 2023), se obtuvo un cálculo del número de sílabas correctamente leídas por minuto. En las edades del estudio, la subprueba presenta alfas de Cronbach entre .88 y .97.
- Fluidez de la lectura de palabras (WR) y pseudopalabras (PWR): se emplearon, respectivamente, las pruebas de Lectura de Palabras y Lectura de Pseudopalabras de PROLEC-R (Cuetos et al., 2014), con un cálculo propio de palabras y pseudopalabras correctamente leídas por minuto. El conjunto de la prueba PROLEC-R tiene un alfa de Cronbach de .79.
- Fluidez en la Lectura de textos (TR): a partir de la subprueba de Comprensión de Textos de PROLEC-R, se registraron los errores en la lectura de los 3 primeros textos de la subprueba (2 primeros en 2º-3º), calculando el promedio de palabras correctamente leídas

por minuto. Se espera que esta medida sea superior a la de WR por el contenido en palabras funcionales que el niño lee de forma automatizada en un texto literario.

- Comprensión lectora: porcentaje de respuestas correctas a preguntas sobre los 2 (2º y 3º) o 3 (4º-5º y 6º-1ºS) primeros textos de la subprueba de Comprensión de Textos de PROLEC-R.

Todas las variables socioeconómicas se recogieron a través de un cuestionario a las familias de los participantes que ya se había empleado anteriormente en el país, con un  $\Omega$  de McDonald de .79 (Cubilla-Bonnetier et al., 2025): Family income, Mother's educational level y Father's educational level, Internet connection at home, Number of children's books at home, Father living with child at home, Number of people at home/number of adults ratio, and Years of Pre-primary education (los distintos valores posibles de estas variables se encuentran en la Tabla 2).

### *Análisis estadísticos*

Para describir las diferencias entre los estudiantes de la educación pública y los de la privada en la caracterización de las distintas variables socioeconómicas, se empleó la prueba Chi-Cuadrado cuando las variables eran de tipo ordinal y se analizó la distribución de frecuencias con proporciones, y la prueba *t* de Student cuando se trató de variables continuas descritas mediante promedio y desviación estándar.

Para alcanzar el objetivo de describir las diferencias de rendimiento entre el sistema público y el privado en las distintas variables psicolingüísticas, lingüísticas y de rendimiento lector, al tener la variable de agrupación solamente dos categorías se emplearon, según conviniera, la prueba *t* de Student o la *t* de Welch (cuando se incumplió el supuesto de igualdad de varianzas en la prueba de Brown-Forsythe). Se puede apreciar el uso de una u otra por la presencia de grados de libertad corregidos.

Para lograr el segundo objetivo, el de determinar qué variables socioeconómicas impactan en el rendimiento en variables de fluidez lectora, vocabulario y comprensión lectora y con qué intensidad, se emplearon regresiones lineales. Para comprobar si el hecho de pertenecer a determinados grupos por variables socioeconómicas se asocia a un mayor riesgo de presentar bajo rendimiento lector, se empleó la herramienta del riesgo relativo, calculado con la fórmula:

*riesgo del grupo expuesto a una condición*  


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*riesgo del resto de la muestra*

Por último, para calcular el tamaño de la brecha educativa en lectura descontando el efecto de las variables socioeconómicas, se emplearon ANCOVAS (con cada una de las variables estudiadas como variable dependiente, el sistema educativo como factor fijo y las variables socioeconómicas como variables controladas). Para todo ello, se emplearon alternativamente los programas SPSS (v.27.0.1.0) y JASP (v. 0.18.3).

## Resultados

### *Caracterización SE de la muestra*

Como etapa preliminar, se caracterizó a los estudiantes del sistema público y privado en las distintas variables socioeconómicas, comprobando la existencia de diferencias entre ambos grupos. Como se puede comprobar en la Tabla 2, aparecen diferencias significativas en todas las variables vinculadas al factor socioeconómico, tanto en las diferencias de proporciones en las variables ordinales (family income, mother's and father's educational level, internet connection at home, number of children's books at home, and father living with the child) como diferencias de promedio en las continuas (number of people/adults ratio at home and years of pre-primary education). En todos los casos, los estudiantes de la educación pública presentan niveles más bajos de bienestar en las distintas variables.

**Tabla 2.** Distribución de frecuencias de las variables socioeconómicas, por sistema educativo.

Variable	Level	Public	Private	Hypothesis test
<b>Family income</b>	0-19,000 DP <sup>1</sup>	45.4 %	9.4%	$\chi^2(4, N = 1168) = 395.46,$ $p < .001$
	19,000-28,000 DP	27.4 %	12.4%	
	28,000-38,000 DP	15.4 %	14.2%	
	38,000-68,000 DP	7.6 %	22.5%	
	>68,000 DP	4.1 %	41.6%	
<b>Mother's educational level</b>	Incomplete Primary Ed.	6.0 %	1.6%	$\chi^2(4, N = 1168) = 263.57,$ $p < .001$
	Primary Education	8.6 %	0.7%	
	Secondary Education	62.5 %	30.6%	
	Bachelor's Degree	21.6 %	49.9%	
	Postgraduate Degree	1.3 %	17.2%	
<b>Father's educational level</b>	Incomplete Primary Ed.	10.4 %	2.7%	$\chi^2(4, N = 1168) = 259.58,$ $p < .001$
	Primary Education	16.3 %	3.4%	

		Secondary Education	59.4 %	37.5%	
		Bachelor's Degree	12.3 %	43.5%	
		Postgraduate Degree	1.7 %	12.9%	
<b>Internet connection</b>	No		21.4 %	3.4%	$\chi^2(1, N = 1168) = 85.69,$ $p < .001$
	Yes		78.6 %	96.6%	
<b>Number of children's books at home</b>		0-5	60.5 %	25.8%	$\chi^2(3, N = 1168) = 184.45,$ $p < .001$
		6-10	29.5 %	36.3%	
		11-20	7.5 %	22.7%	
		>20	2.5 %	15.2%	
<b>Father living with child</b>	Yes		45.9 %	32.9%	$\chi^2(1, N = 1168) = 20.65,$ $p < .001$
	No		54.1 %	67.1%	
<b>Number of people/adults ratio</b>		Mean	2.57	2.22	$t(1165) = 6.726, p < .001,$ $d = .39$
		(SD)	(1.02)	(0.72)	
<b>Years of Pre-primary</b>		Mean	1.60	2.25	$t(1166) = -7.427, p < .001,$ $d = -.44$
		(SD)	(1.52)	(1.46)	

<sup>1</sup>DP: Dominican Pesos

*Objetivo 1: Evaluación de la diferencia de rendimiento lector entre ambos sistemas (Tamaño de la brecha educativa en lectura)*

Para cada una de las variables de capacidades precursoras de la lectura, ya sean las ligadas a la decodificación (conciencia fonológica, RAN, memoria verbal a corto plazo, conocimiento alfabético) o las puramente lingüísticas (vocabulario, comprensión de estructuras gramaticales o comprensión oral), como para las variables de rendimiento lector (fluidez de la lectura de sílabas, palabras, pseudopalabras y textos y la comprensión lectora), se estudiaron las diferencias entre los estudiantes de las escuelas públicas y los de las privadas. En la Tabla 3 se puede apreciar que, en las capacidades psicolingüísticas precursoras de la lectura (PA, RAN y STVM), los estudiantes de las escuelas privadas presentan un mejor rendimiento (hay que recordar que las variables RAN se miden como tiempo total de ejecución, por lo que valores más altos indican peor rendimiento), con diferencias frecuentemente de tamaño mediano (excepto en algunos grados en las capacidades RAN menos ligadas a la estimulación académica, como la denominación de colores o objetos). En vocabulario, la ventaja de los estudiantes de las escuelas privadas se mantiene de tamaño mediano a lo largo de toda la primaria, rozando el tamaño grande en 4°.

En cuanto a las capacidades de lectura, las diferencias en las capacidades de decodificación (lectura de sílabas, de palabras, pseudopalabras y textos) se mantienen constantes a lo largo de la primaria a favor de los estudiantes de la educación privada, con tamaños medianos o grandes. En el ámbito de la comprensión lectora, el tamaño de la diferencia parece decrecer a lo largo de la primaria, empezando mediano y terminando pequeño.

Adicionalmente, en el final de 2° grado y principio de 3°, 13.6% de los participantes del sistema privado no eran capaces de leer textos (no pudieron ser evaluados en esta tarea por esa razón), mientras que, en el sistema público, este porcentaje se eleva a 39.3%.

**Tabla 3.** Estadísticos descriptivos y tamaño de las diferencias en rendimiento en precursores psicolingüísticos de la lectura y en variables de rendimiento lector entre estudiantes del sistema público y privado, por grado.

Variable	2°-3°				4°-5°				6°-1°S			
	Public x̄ (SD) n=196	Private x̄ (SD) n=184	Test	d	Public x̄ (SD) n=213	Private x̄ (SD) n=195	Test	d	Public x̄ (SD) n=194	Private x̄ (SD) n=186	Test	d
PA	40.96 (16.07)	52.17 (13.80)	t(375.098)=7.571; p<.001	<b>.78</b>	55.40 (14.82)	63.55 (11.62)	t(396.838)=6.204; p<.001	<b>.61</b>	58.28 (13.94)	65.45 (11.09)	t(365.707)=5.559; p<.001	<b>.57</b>
RAN C	61.16 (21.95)	56.84 (33.30)	n.s.	n.s.	50.08 (16.07)	42.89 (8.99)	t(338.584)=-5.64; p<.001	<b>-.55</b>	42.89 (11.23)	40.29 (24.93)	n.s.	n.s.
RAN O	73.70 (20.08)	71.00 (19.27)	n.s.	n.s.	61.13 (19.79)	57.99 (13.58)	n.s.	n.s.	54.69 (15.34)	50.48 (13.72)	t(376.187)=2.824; p<.01	<b>-.29</b>
RAN N	53.45 (25.24)	41.50 (11.21)	t(272.709)=-6.032; p<.001	<b>-.61</b>	37.71 (14.61)	30.69 (7.05)	t(311.522)=-6.264; p<.001	<b>-.61</b>	30.56 (8.10)	28.49 (10.35)	t(378)=-2.173; p<.05	<b>-.22</b>
RAN L	59.35 (29.93)	45.57 (16.87)	t(311.309)=-5.57; p<.001	<b>-.57</b>	39.90 (15.78)	32.71 (10.00)	t(362.479)=-5.544; p<.001	<b>-.54</b>	33.42 (10.66)	28.37 (9.75)	t(378)=-4.816; p<.001	<b>-.49</b>
STVM	3.83 (1.12)	4.13 (1.25)	t(378)=2.45; p<.05	<b>.25</b>	4.26 (1.29)	4.67 (1.24)	t(406)=3.213; p<.001	<b>.32</b>	4.48 (1.30)	5.03 (1.25)	t(378)=4.226; p<.001	<b>.43</b>
AK	74.72 (29.80)	89.19 (18.01)	t(323.927)=5.766; p<.001	<b>.59</b>	90.21 (15.21)	93.80 (11.37)	t(390.719)=2.709; p<.01	<b>.27</b>	93.51 (9.27)	95.62 (11.64)	t(378)=1.962; p<.05	<b>.20</b>
VOC	66.78 (12.62)	73.57 (12.13)	t(377.795)=5.344; p<.001	<b>.55</b>	79.98 (13.27)	90.54 (14.39)	t(406)=7.716; p<.001	<b>.77</b>	87.36 (13.91)	97.43 (13.59)	t(378)=7.13; p<.001	<b>.73</b>
GSC	58.89 (9.11)	62.26 (9.09)	t(378)=3.599; p<.001	<b>.37</b>	64.31 (7.65)	65.84 (8.55)	n.s.	n.s.	65.52 (8.18)	68.01 (7.36)	t(378)=3.108; p<.01	<b>.32</b>
OC	41.07 (23.55)	46.13 (23.98)	t(378)=2.073; p<.05	<b>.21</b>	47.89 (23.29)	55.19 (24.20)	t(406)=3.106; p<.01	<b>.31</b>	50.84 (24.31)	54.97 (26.90)	n.s.	n.s.
SR	26.90 (26.99)	50.07 (29.33)	t(378)=8.02; p<.001	<b>.82</b>	54.07 (30.08)	78.91 (29.45)	t(406)=8.417; p<.001	<b>.83</b>	63.30 (30.76)	87.14 (31.39)	t(378)=7.477; p<.001	<b>.77</b>
WR	15.99 (19.91)	33.00 (21.29)	t(377)=8.041; p<.001	<b>.83</b>	39.23 (24.46)	59.51 (24.19)	t(406)= 8.413; p<.001	<b>.83</b>	49.64 (25.39)	70.65 (25.31)	t(378)=8.076; p<.001	<b>.83</b>
PWR	12.95 (16.93)	22.10 (13.98)	t(377)=5.718; p<.001	<b>.59</b>	25.88 (14.56)	40.94 (38.48)	t(406)=5.31; p<.001	<b>.53</b>	33.03 (17.94)	45.30 (20.10)	t(378)=6.28; p<.001	<b>.64</b>
TR	36.01 (42.93)	67.12 (45.54)	t(378)=6.854; p<.001	<b>.70</b>	78.77 (46.17)	115.66 (43.01)	t(406)=8.329; p<.001	<b>.83</b>	100.32 (48.85)	136.09 (42.26)	t(378)=7.619; p<.001	<b>.78</b>
RC	26.04 (31.51)	44.88 (31.16)	t(378)=5.856; p<.001	<b>.60</b>	47.28 (30.24)	61.00 (25.53)	t(403.386)=4.966; p<.001	<b>.49</b>	52.19 (29.45)	59.50 (27.33)	t(378)=2.505; p<.05	<b>.26</b>

PA: Phonological Awareness; RAN C: Rapid automatized naming for colors; RAN O: Rapid automatized naming for objects; RAN N: Rapid automatized naming for numbers; RAN L: Rapid automatized naming for letters; VOC: Vocabulary; STVM: Short term verbal memory; GSC: Grammatical structures comprehension; OC: Oral comprehension; AK: Alphabetical knowledge; SR: Syllable reading; WR: Word reading; PWR: Pseudoword reading; TR: Text reading; RC: Reading comprehension.  
n.s.: Not significant

*Objetivo 2: Estudio del impacto de las variables socioeconómicas en el rendimiento lector*

Los modelos de regresión lineal mostraron que la única variable que condiciona en todos los grados la fluidez lectora (palabras correctamente leídas por minuto) es el ingreso familiar. En 2°-3° se añaden, aunque con menos fuerza, el nivel educativo paterno y los años de educación inicial (Tabla 4). En 4°-5° se añade al ingreso familiar el nivel educativo materno, con fuerza similar. La varianza en la fluidez lectora explicada por el conjunto de las variables socioeconómicas se mantiene entre 2°-3° y 4°-5° entorno al 19%, pero decrece al 16.1% en 6°-1° de secundaria.

**Tabla 4.** Influencia de las variables de tipo socioeconómico en la fluidez de la lectura de textos.

Variable	2°-3°		4°-5°		6°-1°S	
	F(8;379)=12.109, p<.001 R <sup>2</sup> Adj=.19		F(8;407)=12.835, p<.001 R <sup>2</sup> Adj=.189		F(8;378)=10.064, p<.001 R <sup>2</sup> Adj=.161	
	Beta Std	p	Beta Std	p	Beta Std	p
Mother's educational level	-	-	.18	<0.01	-	-
Father's educational level	.15	<0.05	-	-	-	-
Family Income	.20	<0.01	.17	<0.01	.30	<0.001
Number of children's books	-	-	-	-	-	-
Years of pre-primary	.10	<0.05	-	-	-	-
Number of people e/adults	-	-	-	-	-	-
Father living with child	-	-	-	-	-	-
Internet at home	-	-	-	-	-	-

Se escogió la variable vocabulario como representativa del componente lenguaje oral. Al estudiar las variables socioeconómicas que influyen en el vocabulario, aparece de nuevo el nivel de ingreso familiar en todos los grados. En 4°-5° se une a él, con mayor protagonismo, el nivel educativo materno. En 6°-1°S aparecen también, aunque con menor fuerza, el número de libros infantiles en el hogar y la presencia de internet en el hogar (Tabla 5). La importancia de las variables socioeconómicas como factor explicativo del vocabulario crece de forma continua a lo largo de la primaria (del 12.5% en 2°-3° al 16.9% en 6°-1°S).

**Tabla 5.** Influencia de las variables de tipo socioeconómico en nivel de vocabulario.

Variable	2°-3°		4°-5°		6°-1°S	
	F(8;379)=7.767, p<.001 R <sup>2</sup> Adj=.125		F(8;407)=10.424, p<.001 R <sup>2</sup> Adj=.156		F(8;378)=, p<.001 R <sup>2</sup> Adj=.169	
	Beta Std	p	Beta Std	p	Beta Std	p
Mother's educational level	-	-	.20	<0.001	-	-
Father's educational level	-	-	-	-	-	-
Family Income	.16	<0.05	.17	<0.01	.19	<0.01
Number of children's books	-	-	-	-	.11	<0.05

<b>Years of preschool</b>	-	-	-	-		
<b>Number of people/adults</b>	-	-	-	-		
<b>Father living with child</b>	-	-	-	-		
<b>Internet at home</b>	-	-	-	-	.10	<0.05

La tabla 6 muestra los resultados de la regresión lineal con la comprensión lectora como variable dependiente y las variables socioeconómicas como independientes. No se pudo obtener un modelo significativo en 6°-1°. De nuevo, el ingreso familiar aparece como predictor en 2°-3° y en 4°-5°, agregándose en 4°-5° con similar importancia el nivel educativo materno y los años de educación inicial.

Al contrario de lo que ocurre con el vocabulario, la proporción de la varianza de la comprensión lectora explicada por las variables socioeconómicas es decreciente a lo largo de la primaria desde el 14.9% inicial, hasta el punto de que el modelo deja de ser significativo en 6°-1°S.

**Tabla 6.** Influencia de las variables de tipo socioeconómico en la comprensión lectora.

Variable	2°-3°		4°-5°		6°-1°S	
	F(8;379)=9.325, p<.001 R <sup>2</sup> Adj=.149		F(8;407)=4.851, p<.001 R <sup>2</sup> Adj=.07		-	
	Beta	Std	Beta	Std	Beta	Std
<b>Mother's educational level</b>	-	-	.15	<0.05	-	-
<b>Father's educational level</b>	-	-	-	-	-	-
<b>Family Income</b>	.27	<0.001	.14	<0.05	-	-
<b>Number of children's books</b>	-	-	-	-	-	-
<b>Years of preschool</b>	-	-	.11	<0.05	-	-
<b>Number of people/adults</b>	-	-	-	-	-	-
<b>Father living with child</b>	-	-	-	-	-	-
<b>Internet at home</b>	-	-	-	-	-	-

Por otra parte, el riesgo relativo (RR) de tener bajo rendimiento en fluidez de lectura de textos (cuartil 1) perteneciendo al grupo más bajo de ingresos (28% de la muestra) es 2.2 (el grupo de bajos ingresos tiene más del doble de probabilidad de tener baja fluidez lectora). De la misma forma, los estudiantes cuya madre tiene bajo nivel educativo (estudios primarios o estudios primarios sin terminar) multiplican sus posibilidades de tener baja fluidez en lectura de textos por 2.54. En el ámbito de la comprensión lectora, al 28% de la muestra con bajo nivel de ingresos multiplica por 1.53 el riesgo de tener mala comprensión lectora (Cuartil 1) y tener una madre con bajo nivel educativo por 1.54.

*Objetivo 3: Estimación del impacto del sistema educativo en el rendimiento lector, controlando por índice socioeconómico*

Para aislar el efecto del sistema educativo en el rendimiento lector del de las condiciones socioeconómicas, dado que el sistema público acoge a estudiantes de familias más vulnerables (Tabla 2), se llevó a cabo un ANCOVA para cada una de las variables resultado en cada grado para calcular la diferencia de rendimiento entre ambos sistemas educativos, controlando el NSE (Tabla 7). En las variables psicolingüísticas precursoras de la lectura, las diferencias entre ambos sistemas tienden a decrecer considerablemente (las de tamaño grande se convierten medianas o pequeñas y las medianas en pequeñas), si no a desaparecer. De forma general, las diferencias en variables de lenguaje oral (vocabulario, comprensión de estructuras gramaticales y comprensión oral) tienden a desaparecer (salvo en vocabulario). En cuanto al rendimiento lector, en 2°-3° pasan a ser de tamaño pequeño las diferencias en lectura de sílabas y de palabras, mientras que desaparecen las diferencias de lectura de pseudopalabras y textos y en comprensión lectora. En 4°-5° y en 6°-1°S, aunque de forma menos pronunciada, desciende considerablemente el tamaño de las diferencias (desapareciendo, por ejemplo, la significación de la diferencia en comprensión lectora en 6°-1°S). Tienden a mantenerse, sin embargo, tamaños del efecto medianos en las variables de fluidez de la decodificación.

**Tabla 7.** Efecto del tipo de educación en cada una de las variables de rendimiento lector, controladas las variables socioeconómicas (ANCOVA).

Variable	2°-3°				4°-5°				6°-1°S			
	ANOVA	<i>p</i> <sub>bonf</sub>	<i>d</i>	<i>d</i> (we <sup>1</sup> )	ANCOVA	<i>p</i> <sub>bonf</sub>	<i>d</i>	<i>d</i> (we <sup>1</sup> )	ANCOVA	<i>p</i> <sub>bonf</sub>	<i>d</i>	<i>d</i> (we <sup>1</sup> )
PA	F(1,372)=13.388	<.001	<b>.49</b>	.78	F(1,400)=6.452	.011	<b>.32</b>	.61	n.s.	n.s.	n.s.	.57
RAN C	n.s.	n.s.	n.s.	n.s.	F(1,400)=5.308	.022	<b>-.29</b>	-.55	n.s.	n.s.	n.s.	n.s.
RAN O	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	-.29
RAN N	F(1,372)=9.935	.002	<b>-.42</b>	-.61	F(1,400)=12.557	<.001	<b>-.44</b>	-.61	n.s.	n.s.	n.s.	-.22
RAN L	F(1,372)=7.016	.008	<b>-.35</b>	-.57	F(1,400)=5.650	.018	<b>-.30</b>	-.54	n.s.	n.s.	n.s.	-.49
STVM	n.s.	n.s.	n.s.	.25	n.s.	n.s.	n.s.	.32	F(1,372)=6.026	.015	<b>.33</b>	.43
AK	F(1, 372)=4.345	.038	<b>.28</b>	.59	n.s.	n.s.	n.s.	.27	n.s.	n.s.	n.s.	.20
VOC	n.s.	n.s.	n.s.	.55	F(1,400)=10.518	.001	<b>.41</b>	.77	F(1,372)=4.270	.039	<b>.28</b>	.73
GSC	n.s.	n.s.	n.s.	.37	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	.32
OC	n.s.	n.s.	n.s.	.21	n.s.	n.s.	n.s.	.31	n.s.	n.s.	n.s.	n.s.
SR	F(1, 372)=7.926	.005	<b>.38</b>	.82	F(1,400)=31.487	<.001	<b>.70</b>	.83	F(1,372)=14.817	<.001	<b>.51</b>	.77
WR	F(1, 371)=5.080	.025	<b>.30</b>	.83	F(1,400)=16.109	<.001	<b>.50</b>	.83	F(1,372)=13.232	<.001	<b>.49</b>	.83

<b>PWR</b>	n.s.	n.s.	n.s.	.59	F(1,400)=12.166	<.001	<b>.44</b>	.53	F(1,372)=14.008	<.001	<b>.50</b>	.64
<b>TR</b>	n.s.	n.s.	n.s.	.70	F(1,400)=11.483	<.001	<b>.42</b>	.83	F(1,372)=8.373	.004	<b>.39</b>	.78
<b>RC</b>	n.s.	n.s.	n.s.	.60	F(1,400)=5.841	.016	<b>.30</b>	.49	n.s.	n.s.	n.s.	.26

PA: Phonological Awareness; RAN C: Rapid automatized naming for colors; RAN O: Rapid automatized naming for objects; RAN N: Rapid automatized naming for numbers; RAN L: Rapid automatized naming for letters; VOC: Vocabulary; STVM: Short term verbal memory; GSC: Grammatical structures comprehension; OC: Oral comprehension; AK: Alphabetical knowledge; SR: Syllable reading; WR: Word reading; PWR: Pseudoword reading; TR: Text reading; RC: Reading comprehension.

n.s.: Not significant

<sup>1</sup> Cohen's *d* without controlling SES variables, taken from Table 3.

## Discusión

Los resultados evidenciaron diferencias significativas de rendimiento entre estudiantes de escuelas públicas y privadas en casi todas las variables evaluadas. A nivel general, los estudiantes del sector privado mostraron un rendimiento superior en habilidades psicolingüísticas, lingüísticas y lectoras, con tamaños del efecto medianos a grandes, especialmente en fluidez de lectura. En el sistema público, 4 de cada 10 niños evaluados no son capaces de leer textos a finales de 2° grado o inicios de 3°, proporción alarmante y tres veces mayor que la del sistema privado. Las regresiones lineales revelaron que el ingreso familiar fue el predictor más consistente del rendimiento lector, vocabulario y comprensión lectora, aunque otros factores como el nivel educativo de los padres también mostraron influencia específica según el grado. Los niños cuyo ingreso familiar es bajo y aquellos cuya madre tiene bajo nivel educativo tienen más del doble de probabilidades de tener baja fluidez lectora.

Al controlar las variables socioeconómicas, buena parte de las diferencias entre sistemas educativos disminuyeron o desaparecieron, en especial en comprensión lectora y habilidades lingüísticas, lo que sugiere que el contexto socioeconómico explica una porción sustancial de la brecha entre el sistema público y privado, principalmente vinculadas a desigualdades estructurales (OECD, 2024; Acevedo et al., 2023). No obstante, algunas diferencias se mantuvieron, sobre todo en medidas de fluidez lectora, lo que apunta a un posible efecto residual del sistema educativo en el desarrollo de ciertas habilidades lectoras.

Es relevante el hecho de que las diferencias en rendimiento lector en 2°-3°, una vez controlado el SES, sean pequeñas, o inexistentes en determinadas variables. Esto indicaría que el tipo de sistema educativo aún no ha creado las diferencias importantes que aparecen posteriormente. No obstante, sí aparecen en este grado diferencias en los principales predictores del rendimiento lector futuro: PA y AK (predictores de la precisión lectora) y RAN números y letras (predictores de la velocidad

lectora). Esto podría contribuir a explicar, al menos en parte, las marcadas diferencias que aparecen en lectura en 4º-5º, ya que, aunque en países con altos niveles de desarrollo educativo PA y AK ya no son predictores en 2º o 3º del rendimiento lector futuro, en este tipo de contextos la dependencia de la PA sigue siendo fuerte, incluso hasta 4º (Cubilla-Bonnetier, Marte-Santana et al., n.d.; Cubilla-Bonnetier & Sánchez-Vincitore, 2025).

Los tamaños del efecto de las diferencias brutas en comprensión lectora, en 3º-4º y en 6º-1ºS, de  $d=.49$  y  $d=.26$  respectivamente, son inferiores a las reportadas en 2010 por Duarte et al., aunque el tiempo transcurrido puede alterar el valor de la comparación. Por otra parte, descontado el efecto de las variables socioeconómicas, el efecto del tipo de educación sobre el rendimiento lector parece aumentar de 2º a 4º, para volver a reducirse en 6º (en el caso de la comprensión lectora, sólo es significativo en 4º). Esto podría deberse al efecto acumulativo de un sistema escolar que no compensa las diferencias interfamiliares estructurales, y la ligera bajada de la diferencia en 6º podría deberse al hecho de que los estudiantes socioeconómicamente vulnerables tienden a ser los de más bajo rendimiento académico, lo que podría provocar un rezago en estos estudiantes resultando en una deserción voluntaria o involuntaria del sistema educativo, aunque estas hipótesis deberán ser confirmadas por estudios diseñados a tal efecto (tal vez de corte longitudinal).

La proporción en la que se reduce la brecha en las distintas variables de rendimiento lector cuando se controla el SES es coherente con lo reportado en secundaria en las pruebas PISA, puesto que, en la mayor parte de los países latinoamericanos, la brecha se reduce aproximadamente a la mitad (Cheema, 2024).

Por otra parte, una vez descartado el efecto del SES, se encuentran diferencias en el nivel de vocabulario comprensivo en 4º-5º y 6º-1ºS, pero no en 2º-3º. Independientemente de los factores que expliquen la brecha lectora entre los sistemas, no hay que olvidar que la lectura es uno de los principales mecanismos de adquisición de léxico desde que aquella se vuelve funcional, por lo que un menor rendimiento lector puede explicar una menor adquisición de nuevo vocabulario a medio plazo. Sería recomendable estudiar específicamente el impacto de este fenómeno acumulativo en la secundaria.

Adicionalmente, este estudio puede aportar elementos al debate sobre el carácter más “biológico” o innato sobre el RAN. El hecho de que se mantengan diferencias entre sistemas educativos en el rendimiento en RAN tras controlar el SES podrían contradecir la tesis innatista (Andreola et al,

2021, Carioti et al., 2022), sin embargo hay que tener en cuenta que las únicas diferencias que se mantienen se dan en las variables de RAN alfanumérico, basado en el procesamiento de tokens aprendidos (números y letras), más específicamente relacionados con la enseñanza y, por tanto, más potencialmente asociados a la calidad y cantidad de estimulación recibida en la escuela.

Otro de los hallazgos relevantes es que los estudiantes de la escuela pública inician la educación primaria con un promedio inferior de años de educación inicial, por lo que al efecto de los parámetros socioeconómicos familiares, que afectan a la calidad y cantidad de estimulación lingüística y a la disponibilidad de material lector y de sesiones de lectura compartida en el hogar, habría que sumar una menor estimulación escolar, lo que resta posibilidades de compensación de dichos factores adversos y podría contribuir a perpetuar la brecha educativa. En este sentido, el sistema educativo público del país, tanto inicial como primario, no estaría ejerciendo su papel esperado de compensador de las diferencias previas relacionadas con las condiciones materiales y de estimulación familiar del estudiante, impidiendo su rol de ascensor social.

### ***Recomendaciones***

Uno de los hallazgos relevantes de este trabajo es que los estudiantes del sistema educativo público inician la primaria con menor permanencia en la educación inicial que los del privado en la República Dominicana. Los años de educación inicial tienen, entre otros, un propósito de desarrollo del lenguaje y la estimulación de las capacidades precursoras de la lectura. Es necesario continuar el esfuerzo que se está llevando a cabo en el país para universalizar la educación preprimaria, ya que esta es esencial para construir los cimientos del futuro aprendizaje lector. Adicionalmente, es necesario reforzar, en la educación infantil pública, la estimulación de las capacidades esenciales para la construcción de la decodificación y la comprensión lectora y que aparecen infra desarrolladas en 2º grado en el presente estudio: la conciencia fonológica, el conocimiento alfabético, el vocabulario y la comprensión de estructuras gramaticales (aunque en estas dos últimas capacidades no aparezca diferencia significativa entre sistemas una vez controlado el SES, la escuela debe servir para equilibrar las creadas por el contexto del estudiante).

Por otra parte, es necesario abordar la emergencia educativa que supone que 2 de cada 5 estudiantes de las escuelas públicas no posean capacidad funcional de lectura en el paso entre 2º y 3º. Esto,

además de sistemas de detección metódica y precoz de bajos niveles de decodificación (antes de que sean detectadas las carencias en comprensión lectora) requiere la puesta en marcha de sistemas precoces de refuerzo, progresivos en tiempo de acompañamiento específico, con grupos cada vez más reducidos como sugiere la metodología Response to Intervention (RtI), que acumula abundante evidencia en cuanto a su efectividad (Burns et al., 2005).

### ***Limitaciones***

Aunque se empleó una muestra aleatoria de escuelas, todas ellas se situaron únicamente en la zona metropolitana de Santo Domingo (35% de la población del país). En el futuro, sería conveniente emplear muestras representativas de otras regiones del país.

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## **Declaración sobre el uso de tecnologías de IA generativa en la preparación del manuscrito**

Durante la preparación de este trabajo, los autores utilizaron ChatGPT-5 con el propósito de garantizar la calidad de la redacción en inglés. Tras el uso de esta herramienta, los autores revisaron y editaron el contenido según fue necesario, asumiendo plena responsabilidad por el contenido final del artículo publicado.

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