EDUCATIONAL ASSESSMENT & EVALUATION | RESEARCH ARTICLE

Reading promotion, behavior, and comprehension and its relationship to the educational achievement of Mexican high school students

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Abstract: Reading is one of the aspects that help students achieve optimal performance in their education. There are several determining factors that can affect reading, particularly its promotion by teachers, and the students’ behavior and comprehension. This paper seeks to determine the relationship between reading promotion, behavior, and comprehension and educational achievement in Mexican high school students. Our sample consisted of 7,299 students, with an average age of 15.8 years. We analyzed their answers to a questionnaire as well as the database from the 2018 Program for International Student Assessment (PISA) test. A theoretical model was built using the reading promotion, reading behavior, reading comprehension, and educational achievement factors; the model was evaluated using the structural equation modelling technique. We found a positive and significant relationship between reading promotion, behavior, and comprehension and educational achievement. We conclude that, in order to improve educational achievement, teachers should perform specific actions to promote favorable reading behavior and comprehension among high school students in Mexico.

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PUBLIC INTEREST STATEMENT

Reading allows students to explore new horizons in different fields and is directly related to their educational achievement. However, this improvement is dependent on several factors, including reading promotion by teachers and the students’ attitude and comprehension toward what is read. We propose that reading should be promoted by teachers in such a way that it creates positive associations with students so that they read frequently and easily, resulting in increased comprehension of difficult texts.
Subjects: Classroom Practice; Educational Research; Education Studies; Middle School Education; Secondary Education

Keywords: secondary education; student; reading; educational achievement; model

1. Introduction

Educational achievement, without a doubt, has an influence on the economic development of a nation. Therefore, each country must have certain mechanisms that allow them to ascertain the degree to which educational goals are achieved and the conditions that favor them, making evaluation a fundamental aspect of any educational process. In Mexico, different instruments have been used at the national scale to not only to evaluate the students’ progress during their school years but to gather information aimed at improving the national curriculum (De Hoyos et al., 2012; INEE, 2017; OCDE, 2011). Among these instruments are the Program for International Student Assessment (PISA), directed by the Organization for Economic Co-operation and Development (OECD) (INEE, 2017), which evaluates the students' level of knowledge and skills that are necessary for their incorporation into society; in particular, PISA measures achievement in reading, mathematics, and science. In the 2018 test, only 1% of Mexican students achieved a high level of competence in at least one area, and 35% did not achieve a minimum level of proficiency neither of the three areas evaluated. (OCDE, 2019). National tests have shown similar poor performance, highlighting the dimension of the challenge (SEP, 2017a).

Although these figures are not encouraging, improving performance in reading (De Hoyos et al., 2012) could improve the students’ general performance in standardized tests such as PISA. Reading increases development possibilities for both society and individuals (Márquez-Jiménez, 2017), is key to culture and communication (SEP, 2015), and, furthermore, it brings with it various benefits, including those related to the construction of new knowledge and an improvement in learning processes. However, some young people have expressed negative attitudes towards reading which would cause problems during their education (Agreiter-Casas, 2019; Delgado-Cerrillo, 2007; Vázquez-Borges et al., 2019; Vital-Carrillo, 2017). Altogether, it is essential to promote reading (Rodríguez-Pichardo & González-Medina, 2018) an action that demands effort and time (Federación de Enseñanza de Comisiones Obreras de Andalucía, 2011), as well as the support of teachers (Eiche et al., 2019; Huang et al., 2015; Márquez-Jiménez, 2017; Molina-Villaseñor, 2006; Ortega-González, 2018; Ozola & Geske, 2019).

In this paper, we intend to elucidate the relationship between reading promotion, reading behavior, and reading comprehension and educational achievement in Mexican high school students by analyzing the PISA 2018 database and applying multivariate statistical techniques.

2. Regarding reading

Reading involves the construction of meanings, based on the reader's prior (Ministerio de Educación del Perú, 2016); it involves using, understanding, reflecting on, synthesizing and reconstructing written information. In this sense, readers who need to maintain an active role with the material react in different ways when they want to use and understand it (Gutiérrez-Valencia & Montes de Oca-garcía, 2004; INEE, 2008). Now, reading is decisive for learning and therefore, the educational system must guarantee its promotion among students (Gamez-Estrada, 2012; Matesanz-Santos, 2012; Ministerio de Educación del Perú, 2016).

In Mexico, the Secretaría de Educación Publica (SEP) has made it known that it is essential for students to master reading, otherwise low grades will continue to be a constant. For this reason, the Subsecretaria de Educación Media Superior, which oversees high school education in Mexico, promotes tasks aimed both at promoting recreational reading and developing competencies, reasoning and raising reflective capacity (SEP, 2017b). Specifically, the Subsecretaria emphasizes the aspects of reading promotion, behavior, and reading to improve educational achievement, and
considering that reading comprehension is mentioned in the Ley General de Educación (2019), this research becomes highly relevant.

3. Literature review

3.1. Reading promotion and its relationship with academic aspects

Reading promotion is an activity that seeks to encourage reading. In addition, reading promotion is associated with academic performance (Allende-Hernández et al., 2012; Montesinos-Ruíz, 2006; Nyarko et al., 2018). Teachers who encourage reading of specific literary texts allow students to learn about different ways of living and understand life through reflection. This, however, poses a difficulty for the school as reading is a complicated educational process that derives from the students’ knowledge on the subject. This results in the need of the teaching staff (one of the main actors) to be acquainted with these factors. As an example, the adequate selection of texts (stories, science dissemination content, newspapers, magazines, among others) is fundamental in order for the student to acquire reading habits in the classroom (González-Ortiz, 2015; INEE, 2008; Matesanz-Santos, 2012; Paredes, 2015), in addition to providing opportunities so that they can explore and interact with texts (PDST, 2014), ask questions, express their opinion or criticism (Gómez-Nashiki, 2008).

Rueda-Espinoza (2019) pointed out that the encouragement of critical reading in school is essential and that it should be the responsibility of the entire educational community, not only teachers, as it is an action that enhances academic performance. Mijangos-Melendrez (2015) also noted the relation between reading promotion and students’ academic performance (accredited courses). On the contrary, González-Malavé (2018) pointed out that teachers in a certain educational institution were applying obsolete and memory-based reading methods that could hinder the development of the students’ thinking process and, consequently, their school performance, as they did not reach the expected grade.

Despite the above, SEP (2015) reported that reading promotion in high school is not enough to improve students’ performance levels, rather it is necessary to promote attitude change towards reading. Therefore, it would be worth analyzing what Montesinos-Ruíz (2006) posited over a decade ago: He suggested that teachers should provide texts that reflect the students’ diversity in order to encourage reading. In line with these ideas, Muñoz et al. (2018) and Montesinos-Ruíz (2006) highlight the relevance of the reading habits of future teachers (who will be in charge of promoting it), and which will later have a repercussion in the classroom. Consequently, it is valuable to promote reading in high school, because this is a stage during which students consolidate their prior knowledge and develop skills that will be necessary both at higher educational levels and in their daily lives (Santillán & Herrera, 2019).

3.2. Reading behavior and its relationship with academic aspects

Reading behavior is concerned with how individuals proceed toward their reading habits (Real Academia Española, n.d.-a, n.d.-b); including attitudes and objective actions, interest, predisposition and motivation toward reading and, to a large extent, it is influenced by the socioeconomic context and by culture (CERLALC-UNESCO, 2011); it should be noted that the students’ own interest stimulates learning and is essential for academic success (Harackiewicz et al., 2016). For example, positive attitudes, such as a taste and desire for reading, the frequency of reading during workdays, vacations and weekends, the so-called recreational reading, and reading voluntarily during leisure time, among others, are related to a student’s achievement and academic performance (Castro-Porcayo, 2014; Dezzellar et al., 2014; Galicia-Gaona & Villuendas-González, 2011; Gil-Flores, 2011; Lanche, 2008; Martínez-Diaz & Torres-Soto, 2019; Molina-Villaseñor, 2006; Moreno & Santos, 2011).

Furthermore, in the studies conducted by Vázquez-Borges et al. (2019) and Elche et al. (2019), it was found that high school students who read more frequently, even when what was read did not have a direct relation with their studies, obtained higher grades; likewise, that students who read
more books and had more interest in reading showed remarkable performance, thus differentiating themselves from other students. This coincides with Bernal-García and Rodríguez-Coronado (2017), who reported that secondary level students with satisfactory school achievement levels had the habit of reading texts different from those provided in school. Similarly, Guamán-Condor (2018) stated that adolescents who did not have an adequate reading level (literal, inferential or critical), their academic results were lower. Based on the above, a positive attitude towards reading should be considered as the goal during schooling (Mújica-Sarmiento et al., 2011).

3.3. Reading comprehension and its relationship with academic aspects
Reading comprehension is defined as the ability to understand what is read; it encompasses the development of meanings by obtaining outstanding ideas from a text, as well as the ability to create relations between them (Ramírez-Mazariegos, 2017). Likewise, it is also specified as a linguistic skill that allows for the interpretation of a text, requiring that a reader have attitude, experience and foremost, knowledge (Garduño, 2019). In this regard, reading fluency becomes relevant, since it is essential for adequate reading comprehension (Fumagalli et al., 2017; Lee, n. d.), and this implies modulating the voice according to what is being read, taking into consideration the units of punctuation and meaning (SEP, 2010). Along this line, some studies have noted that reading comprehension is associated with achievement (Hardiyanto et al., 2016; Oliver-Conde & Fonseca-Bautista, 2009) and with academic performance in certain areas (Córdova-Patiño, 2017; García-García et al., 2018; Gómez-Palomino, 2011; González-Bonafau, 2016; González-Malavé, 2018; Guillén-Salazar, 2012; Tunco-Coaquina, 2016; Vilchez-de la Cruz, 2018; Viramontes-Anaya et al., 2019). Specifically, Llorens-Esteve (2015) pointed out that higher level of reading comprehension, results in improved academic results and that students classified as skilled readers possessed, among other things, strategies that were related to a better selection of information and that they also presented an advance in grades (Solano-Pinto et al., 2016). Similarly, authors such as Mila-Ávila (2018) and Agreiter-Casas (2019) detailed that deficiencies in reading comprehension hinder student learning, resulting in lower academic performance that this is derived, among other things, from the difficulty to analyze and understand texts.

Undoubtedly, reading comprehension, which is essential for the acquisition of new knowledge, should be one of the main objectives pursued and one of the essential pillars of education. To achieve this, tasks should not be limited to just answering questions from the text, rather, students should focus on developing skills to adapt their reading strategies based on the text they are working with (Esteban-Peregrina, 2017). Thus, it is important to design guidelines that provide methodological strategies aimed at helping students to identify the type of material they are reading, which will allow them to understand the information acquired (González-Malavé, 2018).

3.4. Reading promotion, behavior, and understanding: three interconnected aspects
According to various published works, reading encouragement, behavior, and comprehension are related. USAID (2017) revealed that students’ motivation and interests allows them to choose texts and read for entertainment or learning purposes. Likewise, it was pointed out that when these interests coincide with the readings provided by teachers during classes, understanding is facilitated. Specifically, Guthrie et al. (2006) mentioned that when teachers encouraged reading among students under certain guidelines, such as providing them with stimulating tasks, their reading comprehension skills improved. On the same vein, Trimiño-Quiala and Zayas-Quesada (2016) revealed that teachers had significant didactic weaknesses when it comes reading encouragement. According to these authors, the students reported that they were not allowed to read what could motivate them, they were not interested in the books recommended by the teachers, and rarely would teachers guide students to read. Consequently, this negatively impacted the students’ reading comprehension (Trimiño-Quiala & Zayas-Quesada, 2016). In light of this, it would be necessary to consider the guidelines published by the Ministerio de Educación del Perú (2016), where it was emphasized that reading promotion by teachers, i.e., giving students different texts to
choose from and providing guidelines for the students to access a diversity of books contributes to 
the understanding of the texts beyond what is necessary for school.

Encouragement builds interest, enjoyment, and pleasure towards reading among students 
(Ezquerro-Pérez, 2015; Mordán-Oviedo, 2015). The Gobierno del Estado de Hidalgo (n.d.), in 
Mexico, reported that reading encouragement promoted by teachers is associated with students' 
behavior, as the teachers' goal is to instill the taste for reading during their practice. Soldevilla- 
Elduayen (2019), in particular, pointed out that if middle and high school students are provided 
with an environment in which they feel comfortable to give their opinions and share their ideas 
and preferences, and if their interests concerning reading are taken into account, they will feel more motivated to read and participate in different activities. This had been previously described 
by McKool (2007) who revealed that students who belonged to schools where they were allowed to 
read the texts they selected and who were interested in reading had a better chance of getting 
involved in so-called voluntary reading. On the contrary, one study indicated that several primary- 
school students felt unmotivated to read, associating this with the fact that the texts promoted by 
the school were out of context. In other words, during reading, topics that could capture their interest or reflect their experiences were not addressed (Cáceres-Valdivia & Piña-Piña, 2014).

In addition, Martínez-Jaimes et al. (2019) and Moreno and Santos (2011) indicated that students' 
attitude toward reading represents a significant factor in comprehension. This was confirmed by 
Muliwatí (2017) who noted that students should be highly motivated in order to optimize their 
reading comprehension abilities. In this aspect, Ilián-Ilián (2005) insisted that learning to read 
complex texts comprehensively a priority of mandatory education, as it is directly linked, among 
other things, to the goal of training students to venture into the world of leisure reading. Delgado-
Cerrillo (2007), however, states that forcing students to read texts that exceed their comprehension 
level leads to apathy, discouragement and rejection towards reading, a statement similar to the one 
of Molina-Ibarra (2020), who recently pointed out that if a motivated student begins to read and, 
during the process, does not understand what they read, the initial motivation will be lost.

The evidence reviewed allows us to state beyond reasonable doubt that reading promotion, 
behavior, and comprehension are closely related, and they impact overall educational achievement 
in courses as diverse as religion, personal-social training, science and environment, natural and social 
sciences, mathematics, communication, language and literature (Córdova-Patiño, 2017; García-García 
et al., 2018; Gómez-Palomino, 2011; González-Bonafuau, 2016; Guillén-Salazar, 2012; Viramontes-
Anaya et al., 2019). However, there are few studies that focus on high school students (Larrazolo 
et al., 2013), so we deemed it pertinent to determine the relationship between the promotion, behavior 
and reading comprehension with educational achievement in high school students from this country.

3.5. Theoretical model
We propose the theoretical model shown in Figure 1. This model is the result of a thorough review 
of the literature. In it, we discuss the relation between reading promotion, reading behavior and 
reading comprehension factors, in addition to their direct relation with educational achievement.

4. Methods

4.1. Study type and sample
This was a non-experimental quantitative, descriptive, and correlational research study. The 
sample comprised 7,299 Mexican high school students with 3,826 (52.4%) women and 3,473 
(47.6%) men, the average age being 15.8 and standard deviation being 0.3 years.

4.2. Database
This study used the PISA 2018 database; this database contains responses from the questionnaire 
administered to high school students in Mexico in addition to their results in mathematics, reading,
Figure 1. Theoretical model. 
Source: Prepared by the authors.

and science. The OCDE displays this information on its website, making it available for researchers to conduct corresponding analyses.

4.3. Measurement
Our operative definition of educational achievement was provided by Rodríguez-Pichardo and González-Medina (2018) who defined it as the result obtained by students in mathematics (MATH), reading (LECT), and sciences (SCI), with an average of 500 points and a standard deviation of 100 points (OECD, 2018). The factor, reading behavior and reading comprehension were proposed after conducting a thorough review of the literature. The variables used to measure each of these three factors and the students’ results in the abovementioned subjects were obtained from the PISA 2018 database. Table 1 shows each factor with their respective variables (in ordinal level) and the variables’ values.

4.4. Statistical analysis
We applied the Exploratory Factor Analysis (EFA) to determine the distribution of the variables included in Table 1. The EFA confirmed that the Kaiser-Meyer-Olkin (KMO) result was higher than 0.7 with a Bartlett’s Test of Sphericity value <0.05 (Taherdoost et al., 2014) using factors with an eigenvalue of 1 (Beavers et al., 2013). After that, the Confirmatory Factor Analysis (CFA) was carried out to verify the relationships found with the EFA. The CFA determined the corresponding statistical data, just as Treviño-Villarreal et al. (2019) recommended, i.e., χ²/g.l., IFI, CFI, root mean square error of approximation (RMSEA), and the Non-standardized Adjustment or Tucker Lewis Index (TLI). The requirement that all loadings of variables were ≥0.7 was also met (Raubenheimer, 2004).

After statistically checking the reading promotion, reading behavior and reading comprehension factors, the internal consistency of each one of them was measured through Cronbach’s alpha coefficient. Finally, the structural equation modeling (SEM) technique was used to empirically test the Theoretical Model. The latter verified the goodness of fit statistic data, the degrees of freedom for the Chi-square (χ²/g.l.), the mean square error of approximation (RMSEA) and the expected cross validation index (ECVI), as well as the incremental adjustment measures of Normed Fit Index (NFI) and the Non-standardized adjustment or TLI, and the Parsimony Normed Fit Index (PNFI). All statistical analyses were conducted using SPSS 25 and AMOS 25 software.

5. Results
Table 2 shows the results of the EFA. In addition, the KMO values and Bartlett’s Test of Sphericity’s p value were 0.811 and 0.000, respectively. Accounting only for the factors with an eigenvalue higher than 1, the percentage of variance explained by them was 62.3%. The above results
indicate the presence of sampling adequacy and an accepted correlation between variables (Véliz, 2017), thus confirming the validity of the EFA. This suggests there is evidence demonstrating that the distribution of variables in each of the three factors is acceptable.

The Cronbach’s alpha coefficient was also calculated for each factor, obtaining results of 0.850 for reading promotion, 0.787 for reading behavior, and 0.731 for reading comprehension, respectively. These values were higher than the minimum acceptable ones (van-Griethuijsen et al., 2014), thus suggesting the reliability of each factor to measure the expected concept.

To check whether the distribution of variables in each factor was as determined by the EFA, the results of the CFA are shown in Figure 2. The corresponding statistical data are $\chi^2/g.L. = 1.173$, IFI = 0.922, CFI = 0.910, RMSEA = 0.073, and TLI = 0.881. This analysis allows us to observe that each of the three factors can be measured through the proposed variables. Moreover, a significant and positive correlation between reading behavior, reading promotion, and reading comprehension can be observed, with 0.129 and 0.539, respectively, and a value of 0.185 between reading promotion and reading comprehension.

Finally, Figure 3 shows the empirical model obtained from the SEM technique. The goodness of fit statistical data are $\chi^2/g.L. = 2.021$, RMSEA = 0.064, and ECVI = 0.963. For its part, the incremental adjustment measures were NFI = 0.960 and TLI = 0.921. Finally, the PNFI was 0.581. These values show that the model’s results are statistically significant (Escobedo-Portillo et al., 2016).

The empirical model’s most relevant results indicate that the standardized weights of reading comprehension, reading behavior, and reading promotion in educational achievement are 0.333, 0.108, and 0.083, respectively. This means that if students are highly skilled in reading comprehension, reading behavior, and reading promotion their educational achievement will significantly increase. In other words, students who are skillful readers, can read fluently, and are able to

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**Table 1. Factors, variables and variable values**

| Factors                        | Variables                                                                 | Variable values                                                                 |
|--------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Reading promotion              | The teacher encourages students to express their opinions about a text. (RP1) | • Never or hardly ever                                                         |
|                                | The teacher helps students relate the stories they read to their lives. (RP2) | • In some lessons                                                              |
|                                | The teacher shows students how the information in texts builds on what they already know. (RP3) | • In most lessons                                                              |
|                                | The teacher poses questions that motivate students to participate actively. (RP4) | • In all lessons                                                               |
| Reading behavior               | I read only if I have to. (RB1)                                           | • Strongly disagree                                                            |
|                                | Reading is one of my favorite hobbies. (RB2)                               | • Disagree                                                                     |
|                                | I like talking about books with other people. (RB3)                        | • Agree                                                                        |
|                                | For me, reading is a waste of time. (RB4)                                  | • Strongly agree                                                               |
|                                | I read only to get information that I need. (RB5)                          |                                                                                 |
| Reading comprehension          | I am a good reader. (RC1)                                                  | • Strongly disagree                                                            |
|                                | I am able to understand difficult texts. (RC2)                            | • Disagree                                                                     |
|                                | I read fluently. (RC3)                                                     | • Agree                                                                        |
|                                |                                                                             | • Strongly agree                                                               |

Source: Prepared by the authors, including information collected from PISA 2018.
Table 2. Exploratory factor analysis

| Variable                                                                 | Factors |   |   |
|---------------------------------------------------------------------------|---------|---|---|
| The teacher shows students how the information in texts builds on what they already know. | RP      | 0.863 | -0.017 | -0.062 |
| The teacher poses questions that motivate students to participate actively. | RB      | -0.017 | -0.055 | -0.039 |
| The teacher encourages students to express their opinions about a text.   | RC      | -0.062 | -0.075 | -0.077 |
| The teacher helps students relate the stories they read to their lives.   |         | 0.830  | 0.009  | -0.030 |
| I read only to get information that I need.                               | RP      | 0.034  | 0.793  | 0.051  |
| I read only if I have to.                                                 | RB      | 0.009  | 0.692  | 0.263  |
| Reading is one of my favorite hobbies.                                    | RC      | -0.075 | -0.077 | -0.077 |
| For me, reading is a waste of time.                                       | RP      | -0.037 | 0.115  | 0.796  |
| I like talking about books with other people.                             | RB      | -0.115 | 0.647  | 0.278  |
| I read fluently.                                                          | RC      | 0.009  | 0.783  | 0.058  |
| I am a good reader.                                                       | RP      | -0.097 | 0.692  | 0.263  |
| I am able to understand difficult texts.                                  | RC      | 0.025  | 0.738  | 0.058  |

Source: Prepared by the authors, including information collected from PISA 2018.

Figure 2. Confirmatory factor analysis. Source: Prepared by the authors.
understand complex texts will be capable of improving their grades in subjects such as mathematics, reading, and science. In addition, their improvement in these areas will also increase if students engage in leisure reading, and do not feel the only reason to read is to obtain information, or believe reading is a waste of time. Finally, educational achievement is also enhanced when teachers show their students that the information contained in texts is constructed based on what they already know, ask questions to motivate students to take an active role in the task, encourage students to give their opinions about a given text, and help students relate the content of the text with the events in their own lives.

In addition, there is a positive and significant relationship between reading comprehension and reading behavior and reading promotion of 0.536 and 0.188, respectively. For its part, reading behavior and Promotion are positively and significantly correlated to 0.126. Reading behavior and Promotion are facilitated as reading comprehension improves, and vice versa.

6. Discussion and conclusions
Our study confirmed that reading promotion, reading behavior, and reading comprehension factors are linked to the outcomes in mathematics, reading, and science outcomes, that is, the educational achievement of high school students in Mexico. We found that reading comprehension was the highest-weighted factor for educational achievement in a direct and positive way, which is in line with the information reported by authors such as Agreiter-Casas (2019), Córdova-Patiño (2017), García-García et al. (2018), González-Bonafu (2016), Gómez-Palomino (2011), González-Malavé (2018), Guillén-Salazar (2012), Hardiyanto et al. (2016), Llorens-Esteve (2015), Mila-Avila (2018), Oliver-Conde and Fonseca-Bautista (2009), Tunco-Coaquira (2016), Vílchez-de la Cruz (2018), and Viramontes-Anaya et al. (2019), who found an association between reading comprehension and educational achievement, performance, and learning outcomes in various subjects and at different academic levels. Therefore, it is crucial for high school students to be able to read fluently, and comprehend complex texts, which would in turn lead to improved achievement. In this regard, as Esteban-Peregrina (2017) suggested, the work performed by the academic community is vital. In addition, developing guidelines that provide students with methodological strategies for better reading comprehension will make it possible to understand and learn the information (González-Malavé, 2018).

Reading behavior was also directly and positively related to educational achievement, as described by different authors, including Castro-Porcayo (2014), Dezcallar et al. (2014), Galicia-Gaona and Villuendas-González (2011), Gil-Flores (2011), Lanche (2008), Martínez-Díaz and Torres-Soto (2019), Martínez-Jaimes et al. (2019), Molina-Villaseñor (2006), and Moreno and Santos (2011). All these authors sustain that various actions, such as those concerning
enjoyment and desire to read, as well as the frequency of doing so on different days, including weekends and holidays, were associated with the students’ academic performance, achievement, and outcome. Specifically, Vázquez-Borges et al. (2019), Elche et al. (2019), and Bernal-Garcia and Rodríguez-Coronado (2017) prove that when students read more often, even when the material was not related to a certain course, their grades were increased. Likewise, the students who read more books and showed a greater interest in reading showed a notable/ outstanding performance. It follows then that high school students should enjoy reading, instead of thinking of reading as a waste of time; they must understand that reading goes beyond obtaining the information required for school. In this regard, it is important to have the support of the whole educational community so students can adopt these habits, because the goal of education should be the promotion of favorable attitudes toward reading (Mújica-Sarmiento et al., 2011).

In addition, reading promotion was also directly and positively related to educational achievement, a finding in line with several reports that confirm an association between reading promotion and academic performance and educational achievement (Allende-Hernández et al., 2012; Mijangos-Melendrez, 2015; Montesinos-Ruiz, 2006; Nyarko et al., 2018; Rueda-Espinoza, 2019). Therefore, teachers should implement reading promotion activities within the classroom, such as showing students that the information included in texts is based on what they already know, asking them questions help them relate the reading with their lives, and encouraging them to give their opinions about a given text. At the same time, teachers should provide students with a variety of texts, giving them the freedom of choice, as Montesinos-Ruiz (2006) stated.

Reading comprehension, as well as reading behavior and promotion, were directly interrelated in a positive and significant way, which coincides with the findings by the Ministerio de Educación del Perú (2016) and USAID (2017). In addition to authors such as Guthrie et al. (2006), talked about reading promotion and comprehension, whereas the Gobierno del Estado de Hidalgo (n.d.), Ezquerrro-Pérez (2015), Morán-Oviedo (2015), and Soldevilla-Elduayen (2019) dealt with reading promotion and reading behavior. Finally, Illán-Illán (2005), Moreno and Santos (2011), and Muliawati (2017) addressed reading behavior and reading comprehension.

In conclusion, reading should be encouraged by teachers through the implementation of specific activities in the classroom and carried out by students under positive behavior and comprehension guidelines, aspects which can lead to improved educational achievement when developed both individually and collectively. High school teachers are encouraged to carry out a series of activities within the educational context, such as providing students with a variety of texts that are of interest to them, starting with the simplest and moving towards the most complex. To achieve these goals, there should be a well-stocked library in the classroom as well as well-established times read during school hours; furthermore, teacher-guided small-group discussions about the material should be held consistently during the school year.

In short, reading behavior, reading promotion and reading comprehension are strongly related to educational achievement, that is, with the grades obtained in reading, mathematics and science. In turn, the resulting improvements in verbal and written comprehension, mathematical reasoning, description and inference are reflected in better educational outcomes throughout disciplines.

Finally, different research lines remain open, as there are undoubtedly other factors revolving around reading that are linked to the student body’s educational achievement. Thus, this study becomes a key reference in this extremely valuable context, which will eventually affect its main actors.
7. Limitations
The lack of a longitudinal and experimental study that allows for controlling variables and proving causal relationships posed a limitation. Another restriction was the scarcity of studies conducted in Mexico on this topic.

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