

Attitudes toward reading, reading self-confidence, family involvement and reading comprehension in the second grade

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Abstract

Introduction. In literate societies, reading is a key cultural instrument that must be mastered. This process involves cognitive, affective-motivational and contextual aspects. However, we find little research internationally on the relationship between reading comprehension, attitudes toward reading, reading self-confidence and family involvement in the first two grades of primary education. Furthermore, there are no studies in Spain that address these variables concurrently.

Method. Our study investigates the relationship between these four variables in Spanish second-graders using a quantitative (descriptive and correlational) study with the participation of 181 boys and 167 girls.

Results. Attitudes towards reading and writing were very positive, and confidence was high. The girls obtained higher scores than the boys. Reading self-confidence and family involvement showed significant correlations with reading comprehension.

Discussion and conclusions. It is important to foster the involvement of families in their childrens' acquisition of reading and writing, to maintain the learners' self-confidence, and for teachers to understand early differences between boys and girls in their attitudes and preferences.

Key words: Reading, comprehension, attitudes, reading self-confidence, family involvement, gender.

Resumen

Introducción: En la lectura, instrumento cultural clave que hay que aprender a dominar en las sociedades letradas, confluyen aspectos cognitivos, afectivo-motivacionales y contextuales. Pero en el ámbito internacional hay escasez de investigaciones sobre la relación entre comprensión lectora, actitudes hacia la lectura, sentimiento de competencia e implicación familiar en los dos primeros cursos de Educación Primaria. Además, no existen estudios españoles que aborden esas variables al mismo tiempo.

Método: Nuestro estudio investiga la relación entre estas cuatro variables en alumnado español de segundo curso de Educación Primaria mediante un estudio de corte cuantitativo (descriptivo y correlacional) en el que han participado 181 niños y 167 niñas.

Resultados: Se hallaron actitudes muy positivas hacia la lectoescritura así como un elevado sentimiento de competencia. Las niñas obtuvieron puntuaciones más altas que los niños. El sentimiento de competencia y la implicación familiar exhibieron correlaciones significativas con la comprensión lectora.

Discusión y conclusiones. Se resalta la importancia de trabajar en la implicación de las familias, de mantener un positivo sentimiento de competencia y de conocer las tempranas diferencias en actitudes y preferencias de niños y niñas por parte del profesorado.

Palabras clave: Lectura, comprensión, actitudes, sentimiento de competencia, implicación familiar, género.

Introduction

Reading is an important cultural instrument and social practice (Kalman, 2008) that allows people to learn throughout their lifetime, and what is more, to do so autonomously. Comprehension of texts -- whether in the academic, vocational or personal sphere -- is crucial to any citizen of today's literate societies. The cultural and historic nature of reading comprehension is evident in the spread of literacy to a large share of the population and the appearance of new devices for reading and writing. These devices, in turn, have given rise to new daily uses for reading and writing, in addition to the uses that were already incorporated in the school and work environments. In any of these scenarios, comprehension involves complex abilities where many psychological and contextual variables intervene and interact among themselves. Psychological variables include both cognitive and emotional/motivational variables, although the former have been studied more thoroughly than the latter. In recent years, however, interest in emotional/motivational variables has been renewed. Among these variables we find the attitudes that people adopt when they approach text comprehension and production tasks (Conradi, Jang & McKenna, 2014).

Reading, however, is influenced not only by personal variables, but also by contextual variables that in turn have an influence on these personal variables. One of the important contextual variables deserving special attention is family involvement in the school-based process of learning to read. Our objective, then, was to explore the relationship between reading comprehension (RC), attitudes toward reading (AR), reading self-confidence (RSC) and family involvement (FI) within this process, focusing on the early period of learning, in particular, on the second grade of primary education.

Reading comprehension, attitudes toward reading, and reading self-confidence

In the scientific literature, comprehension of a text is much more than being able to tell what was explicitly stated in it. Our abilities as readers go from being able to locate and recall explicit information (textbase) to being able to make inferences based on what is stated in the text (situation model) (Kintsch & Rawson, 2008; MacNamara & Magliano, 2009). These inferences involve making deductions and even elaborating new information that, in interaction with the text, can connect our previous knowledge of different aspects of the world to what appears in the written discourse. Moreover, comprehension includes the ability to judge how the text is written (its style and rigor, for example), and in general, to connect the formal as-

pects of the texts with its content. In short, the complexity of reading comprehension must be sustained not only by basic cognitive processes, but also by motivational aspects, such as AR and RSC. This is especially true if reading takes place in a decontextualized learning scenario such as school, far from the social uses of reading.

Attitudes are general, stable evaluations that people form in relation to other people, ideas or tasks (Briñol, Falces & Becerra, 2007). As such, they play an important role in the basic psychological processes of attention, concentration and memory. In addition, they determine the motivation and the effort that people make when they are carrying out an activity --for example, when reading (Lockwood, 2012; Schiefele, Schaffner, Möller & Wigfield, 2012). Accordingly, attitudes affect our behavior, because they can encourage (or discourage) our level of engagement when reading. These variables in turn can impact the quality of the cognitive processes deployed. Bringing the feedback full circle, if these cognitive processes do not bring about at least relative success in reading, we have fertile ground for the development of negative AR (Kaniuka, 2010). Consequently, research in reading comprehension has directed its attention toward these attitudes.

One study topic has been how attitudes evolve over the school years, but little attention has been given to the early grades of primary school, precisely at the time of reading acquisition. Existing studies (Izquierdo-Magaldi, Melero & Villalón, in press; Merisuo-Storm & Soininen, 2014) have found that first- and second-graders have very positive AR.

Relationships between AR and performance on reading tasks have been another topic of study. In Spain, however, there is a dearth of research on this topic, and internationally, as we have stated, the first two grades of primary education have received little attention. Data from international assessments of reading competence speak to us of the importance of being engaged in one's reading and enjoying it. In the case of PIRLS 2016 (Mullis, Martin, Foy & Hooper, 2017), there are differences in reading achievement between those who claim to like reading very much, and those who say they do not like to read. Elsewhere, the Petscher meta-analysis (2010) found the relationship between AR and reading performance to be moderate (ranging from 0.20 to 0.40), and more solid in primary education than in later school years. Some time after this meta-analysis, McGeown, Johnston, Walker, Howatson, Stockburn, and Dufton (2015) found that AR was even predictive of reading success, as measured by word recognition, in six- and seven-year olds (first grade). By contrast, other authors did not find

this relationship in the first grade. In the study by Nurmi and Aunola (2005), positive AR in first- and second-graders was not mirrored by greater reading competence. Merisuo-Storm and Soininen (2014) concurred that this relationship did not exist in their sample of second-graders. Chapman and Tunmer (1995, 1997) studied attitudes and reading self-concept through a mixed scale, and measured reading competence with decodification tasks; they did not find a relationship between AR and reading competence in first-graders, but in second- and third-graders (more strongly in the latter). McGeown et al. (2015), however, did relate AR to reading competence in first-graders.

In general, we can report a tendency to find this relationship beginning in fourth grade, with some exceptions, and that the data are more contradictory in first- and second-graders, hence the need for further studies, as McGeown et al. (2015) have asserted. Furthermore, there is an even more evident need for studies that include reading comprehension (RC), given that nearly all studies in this age group measure only decodification skill. Additionally, data from Spanish-speakers is scarce.

Research has also considered the role of RSC as a motivational variable that impacts reading achievement. By this we refer to one's own opinion or belief about whether one is competent in understanding texts or finds it easy to understand them. RSC has been assessed in very different ways; in general, by soliciting either perceptions of competence (*I usually read well*), or perceptions of ease or difficulty in reading (*Reading is easy for me*) (Chapman & Tunmer, 1995). In our case, we chose to assess RSC through perceptions of how easy the task is, as did Merisuo-Storm and Soininen (2014).

As in the case of AR, several studies have demonstrated that first- and second-graders have high confidence, and that there is a positive relationship between this variable and different measures of reading behavior and achievement. One such study is the new PIRLS. Mullis et al. (2017) found that RSC is positively related to the degree of RC, such that school-children with a better reading self-concept are significantly better readers. In the case of Spain, students with low RSC had lower scores in RC than did their peers with high RSC. Merisuo-Storm and Soininen (2014) also found this relationship in second-graders. And in the study by McGeown et al. (2015), confidence in reading (using the same instrument as PIRLS 2011) predicted success on a word recognition test in six- and seven-year-olds. Results from Carroll and Fox (2017), who tested reading self-efficacy test in children from 8 to 11 years

old, indicated its correlation to word reading, but not to RC. For their part, Lesaux and Kim (2009) found that confidence in reading not only correlated to word recognition and RC, but also explained reading achievement, in fourth-grade pupils. This was especially true of scores from Chapman and Tunmer's questions about the perceived easiness of reading.

Regarding differences in AR between boys and girls, there are not many research studies to date, and even fewer that include participants from the first two years of primary school. Of the studies including participants in the same age group as our study (7-8 years old), McGeown et al. (2015) found significant differences (partial $\eta^2 = 0.08$, corresponding to $d = 0.6$, a medium effect size), as did Artola, Sastre and Alvarado (2018) ($d = 0.45$) in our country. Merisuo-Storm and Soininen (2014), however, did not find boy/girl differences in the total score on their study questionnaire, but only on certain items. Consequently, in the age range of the present research study, results do not fully agree. In the remaining years of primary education (third to sixth grades), the usual result is to find differences in AR, always in favor of the girls (Becker & McElvany, 2018; Logan & Johnston, 2009; McKenna, Conradi, Lawrence, Gee & Meyer, 2012; Petscher, 2010), and similarly in other motivational aspects, such as intrinsic motivation, interest and value attributed to reading (Kikas, Pakarinen, Soodla, Peets & Lerkkanen, 2018; Marinak & Gambrell, 2010; McGeown, 2015; McGeown, Goodwin, Henderson & Wright, 2012; Stutz, Schaffner & Schiefele, 2016). There is even data showing these differences to be greater in reading than in mathematics or sciences (McGeown and Warhurst, 2019). When studies have analyzed the relationship between the child's sex and reading self-confidence or self-efficacy, the results do not usually show differences (Becker & McElvany, 2018; McGeown et al., 2015; Olivares, Fidalgo & Torrance, 2016). This was not true, however, in the case of Artola et. al (2018), who found differences in favor of the boys, so that neither in RSC is there total agreement. In our own country, AR has been studied in sixth grade (Artola, Sastre & Barraca, 2017); again, the girls had higher scores in this variable, but not in RSC.

Family involvement and its impact on reading achievement and on attitudes toward reading

There is no consensus on the definition of family involvement (FI). Some studies deal with a global concept (LaRocque, Kleiman & Darling, 2011), where FI consists of active parental participation in the school-related processes and experiences of their children (Castro, Expósito-Casas, López-Martín, Lizasoain, Navarro-Asencio & Gaviria, 2015; Jeynes, 2005). Other studies use a specific concept, breaking it down into dimensions relating to family ex-

pectations about school, the reading-writing practices at home, and other aspects (Xu, Benson, Mudrey-Camino & Steiner, 2010; Mol & Bus, 2011; Wilder, 2014). FI measurements have been obtained through reports from parents and teachers, and if they are old enough, from the children themselves (Desforges & Abouchar, 2003). In our case, we asked the teachers to make a global assessment of the family's engagement with their children's process of learning to read at school.

The positive influence of FI on general scholastic achievement is visible starting in Early Childhood Education, and becomes increasingly important during the years of compulsory education (Fantuzzo, McWayne, Perry & Childs, 2004; Galindo & Sheldon, 2012). According to the metasynthesis by Wilder (2014), this influence is moderate, regardless of the definition used for FI (Mol & Bus, 2011; Castro et al., 2015). FI influence also appears specifically in reading achievement. This is confirmed in studies by Kloosterman, Notten, Tolsma and Kraaykamp (2010) (second to sixth grades), in the meta-analysis by Sénéchal and Young (2008) (pre-K to third grade), and in the review by Van Voorhis, Maier, Epstein and Lloyd (2013) (3- to 8-year-olds). In our country, the study by Mora-Figueroa, Galán and López-Jurado (2016), with first-graders who had learning difficulties, reaches the same conclusion. We have not found further research studies in Spain that address the specific relationship of FI to RC in the first two grades of primary education. Internationally, when these school grades are included, the relationship often observed is with decodification performance (syllable reading, word reading), but not with RC.

As for studies that analyze the relationship between FI and motivational variables, they are far fewer in number than those that address a link to achievement; in particular, attention to the connection between family involvement and children's attitudes toward school subjects or a certain area of the curriculum is extremely rare. In a literature review on FI and student motivation, Gonzalez-DeHass, Willems, and Holbeinet (2005) detected greater motivation toward reading when students' parents are involved in the process and support scholastic learning from home, rereading books and texts, for example. For their part, Adamski, Fraser and Peiro (2013) found a correlational and causal relationship between attitudes toward a language arts subject and perceived family involvement in fourth- to sixth-graders, as well as a correlation between attitudes toward Spanish and achievement in Spanish. However, we find no research studies that analyze the relationship between FI and AR (beyond that of FI and achievement).

Objectives

Given the exploratory nature of this study, we have not formulated hypotheses, but rather a series of specific objectives that have guided this study: 1) Identify the AR and RSC of second-graders. 2) Establish whether there are differences between boys and girls in RC, AR and RSC, or differences in these same variables depending on the degree of family involvement. 3) Learn whether there are relationships between attitudes toward reading, reading self-confidence, family involvement and reading achievement.

Method

Participants

Participating were 348 second-grade pupils (181 boys and 167 girls), ages 7 and 8 (mean age = 7 years, 3 months), and their 31 teachers. The initial sample was 388 pupils, but we eliminated the data of subjects who either did not know Spanish perfectly, were behind academically, had learning disabilities, or had specific educational needs. The participants belonged to seven urban schools, including public and charter schools, in the autonomous region of Cantabria (Spain). Students' families represent a diversity of socioeconomic and sociocultural status.

Instruments

Two instruments were used to measure RC. One of these was a selection of texts from the *ACL tests* in reading comprehension (Catalá, Catalá, Mireia & Monclús, 2001). Different types of short texts are followed by comprehension questions that assess literal, inferential and critical comprehension. Children are allowed to reread the text in order to answer the questions. Five of the ACL texts were completed, including literary and expository texts; all texts were continuous. A total of 17 questions were answered. One point was given for each item correctly answered, then the mean for all items was calculated. Consequently, the range of scores was 0 to 1.

The other assessment consisted of having teacher assign each student to one of three groups (low reading competence, medium reading competence, and high reading competence) by assigning a score of 1, 2 or 3, respectively.

AR and RSC were measured using an adaptation of the questionnaire by Merisuo-Storm and Soininen (2012). This instrument was chosen because it was specifically designed for second-graders, and it addresses the two constructs that interested us (AR and RSC). The adaptation consisted of adjusting a few items to the Spanish context and school system.

Most items (20) measure AR. The participants answered questions such as *Do you like to read?* and *Do you like to go to the library?* A second section (7 items) addresses RSC and contains items that rate whether reading tasks were perceived as easy (*Was learning to read easy for you?*). All statements are interrogatory, as recommended by Chapman and Tunmer (1997), very short and easily understood, and have to do with the children's reading-writing practices carried out in the school context, although a few could be addressed with family input. The questionnaire offers a four-point Likert scale expressed through drawings of four bear faces: their facial expressions go from very happy to very unhappy, following the design of the original questionnaire, which seeks to adapt the instrument to the age of the participants. In the scale, 1 means a very negative attitude (the most unhappy bear face) and 4 means a very positive attitude (the happiest bear face). Consequently, scores range from 20 to 80. In the case of RSC, 1 is very low and 4 is very high, and the possible range is 7 to 28.

Cronbach alpha was .86 for AR and .77 for RSC. In both cases, the scores used were the means for the scale (range 1-4).

To measure family involvement, once again we turned to the teachers for a classification of the families into one of three groups: low involvement, medium involvement, and high involvement in their children's reading-writing processes. The respective scores were 1, 2 and 3.

Procedure

A pilot study was conducted in the first phase in order to make any adjustments to the formulation of questionnaire items, as well as to the procedure used in applying the tests to children of this age. The pilot study included 41 pupils (20 boys and 21 girls) from two second-grade classrooms.

The second phase, once the questionnaire was finalized, was implementation of the cross-sectional, descriptive, quantitative study. Several schools were contacted in order to

obtain the corresponding permissions (school administration, classroom teachers and families). Once permission was obtained from the first two parties, written informed consent was requested from the families. The request stated, clearly and understandably, what the research consisted of, its objective, the tasks that the children had to do, the person in charge and how to contact her, as well as the whole series of rights granted by current legislation to persons who participate in research.

Once the researchers gained access to the classrooms, they presented the instruments and, given the age of the participants, ensured that the pupils understood the mechanics of completing the tests.

In the case of the *ACL tests*, each participant filled them out anonymously and completely autonomously, at their own pace and with no time limit. In the case of the AR self-report, one researcher read aloud each of the questions one by one, so that pupils would all respond to the same item simultaneously. The other two researchers acted as support, to clear up any questions or problems of a particular child.

The order of test application was first the RC test, with no time limit, afterward a break, and then the AR questionnaire.

The entire process of data collection and treatment was conducted in compliance with ethical norms and applicable legislation on research with human beings.

Data analyses

We applied the Kolmogorov-Smirnoff test with Lilliefors's correction to check the normality of the scores. The result required us to do nonparametric tests.

The descriptive, correlational nature of this study led us to three types of analyses: 1) Descriptive analysis (mean, standard deviation, minimum and maximum score, range) of the study variables: reading comprehension, attitudes toward reading, reading self-confidence, family involvement in initial literacy processes; 2) Contrast of means: a) by gender, in reading comprehension, attitudes, reading self-confidence and family involvement (Mann-Whitney) and b) by category of family involvement, in reading comprehension, attitudes and reading self-confidence (Kruskal-Wallis); 3) Correlations (Spearman) between reading comprehen-

sion, attitudes, reading self-confidence and family involvement in the total sample and by sex (using the Glass rank biserial correlation).

Results

Regarding the first objective, Tables 1 and 2 show that scores in the study variables, for the most part, do not have normal distribution. Our participants showed correct reading comprehension on the two measures used (clearly lower in the low family involvement group), positive attitudes toward reading, and high reading self-confidence, as well as adequate involvement from their families in the reading-writing process.

Table 1. *Descriptive data: M: Mean and (S.D.: Standard Deviation); Minimum (Min), Maximum (Max) and Range of the study variables in the total sample, by sex*

Note. RC-ACL: reading comprehension measured by the ACL; RC-T: teacher-estimated reading comprehension;

	M. (S.D.)			Min-Max	Range
	Total Sample	Boys	Girls		
RC-ACL	.66 (0.23)	.66 (0.23)	.67 (0.24)	0-1	0-1
RC-T	2.36 (0.75)	2.37 (0.74)	2.36 (0.76)	1-3	1-3
AR	3.39 (0.44)	3.32 (0.47)	3.46 (0.39)	1.3-4	1-4
RSC	3.39 (0.52)	3.42 (0.51)	3.36 (0.53)	1-4	1-4
FI	2.43 (0.69)	2.42 (0.67)	2.44 (0.70)	1-3	1-3

AR: attitudes toward reading; RSC: reading self-confidence; FI: family involvement; Min-Max: Minimum and maximum score

Table 2. *Descriptive data: M: Mean and (S.D., Standard deviation) of the study variables in the total sample, by category of family involvement*

	LOW M (S.D.)	MEDIUM M (S.D.)	HIGH M (S.D.)
RC-ACL	.47 (0.30)	.65 (0.20)	.70 (0.20)
RC-T	1.60 (0.74)	2.21 (0.70)	2.60 (0.64)
AR	3.42 (0.46)	3.38 (0.42)	3.38 (0.47)
RSC	3.23 (0.64)	3.39 (0.55)	3.45 (0.45)

Note. RC-ACL: reading comprehension measured by the ACL; RC-T: teacher-estimated reading comprehension; AR: attitudes toward reading; RSC: reading self-confidence

Regarding the second objective, when boys and girls were compared in AR, significant differences were observed in favor of the latter ($Z = -3.003$; $p = .003$; $r = .18$; $d = .33$); such differences were not observed, however, in RC, RSC, or FI.

When compared across the three categories of family involvement, no significant differences were found in AR or in RSC, but differences appeared in both measures of RC (ACL: $H = 23.705$; $p = .000$; RC-T: $H = 57.307$; $p = .003$). In the case of RC-ACL, the post-hoc contrasts of categories 1 with 2 (low with medium), 1 with 3 (low with high) and 2 with 3 (medium with high) all produced significant differences (1 with 2: $Z = -2.92$, $p = .003$, $d = .25$; 1 with 3: $Z = -4.65$, $p = .000$, $d = .32$; 2 with 3: $Z = -2.765$, $p = .006$, $d = .17$), meeting all requirements of the Bonferroni correction. In the case of RC-T, the post-hoc contrasts of categories 1 with 2 (low with medium), 1 with 3 (low with high) and 2 with 3 (medium with high) also produced significant differences (1 with 2: $Z = -4.125$, $p = .000$, $d = .35$; 1 with 3: $Z = -6.825$, $p = .000$, $d = .48$; 2 with 3: $Z = -4.963$, $p = .000$, $d = .30$), again meeting all requirements of the Bonferroni correction. Regarding the third objective, we carried out correlations between variables (See Table 3).

Table 3. *Correlations between the study variables (Spearman)*

	RC-ACL	RC-T	AR	RSC	FI
RC-ACL	1				
RC-T	.51**	1			
AR	-.03	.04	1		
RSC	.06	.20**	.50**	1	
FI	.27**	.42**	-.01	.07	1

Notes. * $p < .01$; ** $p < .001$

RC-ACL: reading comprehension measured by the ACL; RC-T: teacher-estimated reading comprehension; AR: attitudes toward reading; RSC: reading self-confidence; FI: family involvement

The results indicate that AR did not correlate with either of the two scores for reading achievement. By contrast, family involvement correlated with both measures of reading comprehension (RC-ACL: $\rho = .27$; $p < .01$; RC-T: $\rho = .42$; $p < .01$), while RSC correlated with teacher-estimated reading comprehension only ($\rho = .20$; $p < .01$).

The magnitude of the relationship between sex and the rest of the variables was estimated by effect size for nonparametric data. Several authors (Coe, 2002; Tomczak & Tomczak, 2014) recommend using Glass rank biserial correlation (r), using ranks from the Mann-Whitney test for this purpose. The following results were obtained: $r = .036$ for RC-ACL; $.005$ for RC-T; $.18$ for AR; $.07$ for RSC; and $.02$ for FI.

Discussion and Conclusions

In response to our first objective, we attempted to identify attitudes toward reading (AR) and reading self-confidence (RSC) at the time of early reading acquisition. The high mean score on the questionnaire indicates that the second-grade pupils took on reading acquisition with very positive attitudes, despite the effort involved in reading and comprehending when the grapheme-phoneme correspondences have not yet become automatic. Similarly, the participants showed high reading self-confidence (RSC), which is not surprising when we observe a $.50$ correlation between this variable and AR. Neither of the two variables show differences as a function of degree of family involvement in reading-writing processes. These results concur with those reported in the scientific literature. When studies address the first two grades of primary school, they report high scores in the two variables (Inzquierdo-Magaldi, Melero & Villalón, in press; Chapman & Tunmer, 1997; McGeown et al., 2015; Merisuo-Storm & Soininen, 2014), although in our case scores are even higher than those reported by these authors.

Regarding the second objective, we found statistically significant differences between boys and girls in AR. This does not concur with Merisuo-Storm and Soininen (2014), who did not find such differences for pupils in the same grade as our study (second grade), but is more in the line of McGeown et al. (2015) and Artola et al. (2018), also in second grade. Such differences also seen in later grades, as reported by Mullis et al. (2017) in fourth grade, Logan and Johnston (2009) in fifth grade, Artola et al. (2017) in sixth grade, as well as by Becker and McElvany (2018) in third to sixth grades. Elsewhere, in another study that addresses sec-

ond grade and which measures an aspect similar to attitudes (intrinsic motivation toward reading), Stutz, Schaffner and Schiefele (2016) reported an effect size of .14, lower than ours ($d = .33$). We feel this result is relevant, despite the small effect size, because it suggests that in Spain as well, these differences begin to appear in early grades, even if slightly. The longitudinal study by Becker and McElveny (2018), moreover, shows these differences increasing from third to sixth grades. Furthermore, the differences may progressively become more associated with gender than with sex, if we consider results from McGeown (2015), with 10-year-old boys and girls, and from McGeown and Warhurst (2019), with 9- to 11-year-old subjects. These authors underscore that, more than sex, it is gender identity that predicts reading motivation. It is important, therefore, that reading not be associated with sex; ideally, neither would it be associated with the female gender. Along these lines, it is important that both fathers and mothers offer an example of reading as an instrumental and enjoyable activity for both men and women, so that boys and girls would see both models. Even though in our study and others, the differences between boys' and girls' attitudes toward reading are small in the early stages of schooling, the fact that they appear so early, and that they become increasingly linked to gender more than sex, makes this a top educational concern. Regarding RSC, we did not find significant differences between boys and girls, a result that is consistent with the literature (Logan & Johnston, 2009; Marinak & Gambrell, 2010; McGeown et al., 2015), although we know from Becker and Elvany (2018) that these differences can begin to appear during primary education. Nonetheless, Artola et al. (2018) found significant differences in RSC in favor of the boys, already in second grade.

Another part of the second objective was to ascertain any differences in RC, AR and RSC as a function of the three groups of family involvement (FI) (low, medium and high). We have found these differences to be significant in the case of reading comprehension, regardless of whether it is measured by a standardized test (ACL) or estimated by the teacher. However, differences are not significant in the case of AR and RSC. Future studies could verify whether the impact of FI on RC is direct, or whether it is an indirect, mediated impact through AR or RSC. The recent study by Xia and Gu (2019) addresses precisely this question.

Regarding the third objective, exploring how certain study variables (AR, RSC, and FI in reading processes at school) relate to RC (assessed with two measures), we found four results that are interesting to discuss, and which answer our last question.

First, no correlations between AR and RC measurements were found, a result that concurs with the study by Merisuo-Storm and Soininen (2014), with a longitudinal study by Nurmi and Aunola (2005) with first- and second-graders, and also with a study by Mora-Figueroa et al. (2016). By contrast, our data do not corroborate those of Chapman and Tunmer (1997), who found an early relationship between RC and a scale on AR and RSC, in second grade. Keep in mind that in our case, with high AR scores obtained from practically all participants, the lack of score variability hinders us from obtaining correlations.

Secondly, and by contrast, there was a relationship in our sample between reading self-efficacy (indicated by perceiving reading tasks as easy) and RC (as assessed by teachers), albeit with a low correlation (.20). Prior studies that have found this same result are Merisuo-Storm and Soininen (2014) in second grade and McGeown et al. (2015) in first grade. In this regard, we believe that schools should strive to sustain this reading self-efficacy, the motivational/emotional basis of reading achievement, not allowing it to fall as the student encounters RC tasks of progressive complexity.

Thirdly, the correlation observed between FI and RC measured on a standardized test warrants consideration. Moreover, this correlation increases and becomes moderate when the RC measure is the teacher assessment. Our results with regard to FI are similar to findings from other studies, where FI is related to scholastic achievement starting in early childhood education, and specifically, to reading achievement throughout primary education. In our case, correlations obtained were higher than those seen in the meta-analyses we reviewed, and support the results of Wilder's meta-synthesis (Wilder, 2014). Consequently, an adequate strategy for schools would be to work with families that they might give reading comprehension the importance it deserves, as the foundation for most scholastic learning. The family context can do a good deal toward positive AR development in their children, including staying aware of and supporting the reading-writing processes that take place at school, taking the children to libraries, giving them books, and so on.

Fourthly, we were unable to find a relationship between FI and AR or between FI and RSC, nor could we find any study with similar characteristics to our own, with which to make an adequate comparison of this result. Notwithstanding, we underscore that FI was the only variable that correlated to both measures of RC, a relationship that we were not able to find with the AR variable. Judging also by the results in earlier literature, we find that FI plays a

clearer role in RSC than the students' own AR. This is something we feel that educational authorities and schools should be taking into account. The former should support the latter in systematic, planned actions aimed at the engagement of families in their sons' and daughters' acquisition of reading and writing. In addition, it would be important for teachers to keep in mind the different preferences of boys and girls, and try to address these in order to encourage positive development of the motivational aspects of reading (Merisuo-Storm, 2014; McGeown et al., 2012, 2016). Herein lies an important question for discussion. We ask ourselves whether it is more appropriate for teachers to respect gender preferences and allow the boys and girls themselves to choose their own reading material, or, by contrast, from an educational point of view, whether it is better for teachers to employ active strategies toward molding these preferences, in such a way that boys and girls can enrich their initial spontaneous interests, and so overcome gender stereotypes.

In any case, we can conclude by observing that it is possible, from the educational system, to work toward improving RC from the beginning, taking advantage of pupils' positive attitudes toward reading acquisition and their high RSC. In addition to direct action --that is, the steps that schools and teachers can take in their plans for promoting reading and in using science-based methodology to effectively and meaningfully teach reading and reading comprehension-- there is also the indirect action of promoting family involvement in this crucial type of learning. Other studies also point in this direction, such as Xia and Gu (2019), who found that parental involvement has both a direct and indirect effect (via reading self-concept) on motivation toward reading, and that this effect is more positive for boys than for girls. This clearly calls for educational authorities to in turn support the schools and teachers by providing them with organizational resources and necessary personnel for promoting such family involvement.

We consider that our results as a whole are of interest to both research and teaching practice, but we must also point out some limitations. One such limitation is the descriptive and correlational nature of the study, such that causal relationships cannot be established. In addition, the manner of assessing family involvement could be improved, so that it would not depend only on the teacher's perception but would consider specific actions of family behavior in the realm of reading. These could be measured using a self-report from the family members themselves. Nonetheless, despite its limitations, this study is a worthwhile contribu-

tion, being the first study in Spain on the relationship between attitudes, reading self-confidence, reading comprehension, and family involvement at the start of primary education.

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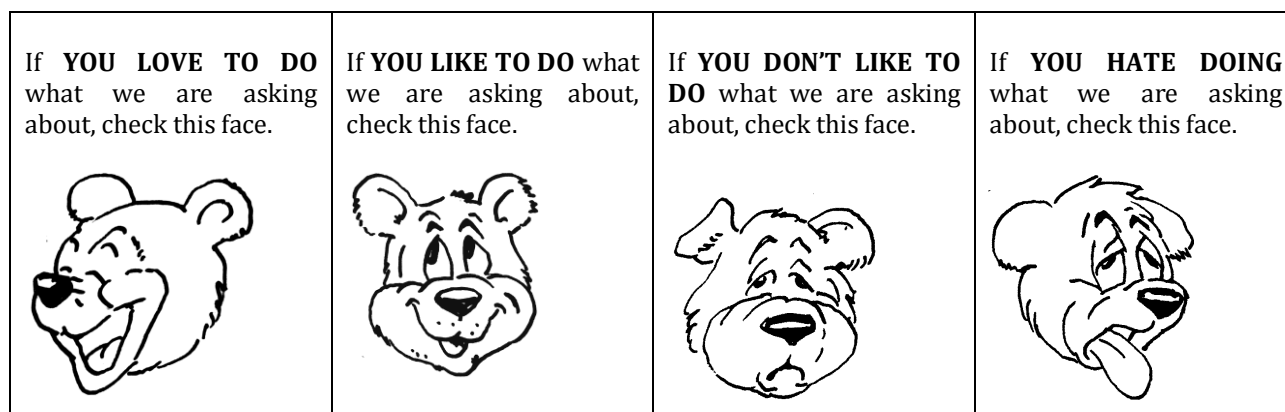
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Appendix I: Adaptation of the questionnaire by Merisuo-Storm and Soininen (2012).



1. Do you like to read books?
2. Do you like to write?
3. Do you like to read comics?
4. Do you like it when someone gives you a book?
5. Do you like it when someone reads a book to you?
6. Do you like to read stories?
7. Do you like to read books that tell you about things: animals, sports, etc.?
8. Do you like to go to the library?
9. Did you like the things they do at school for learning how to read?
10. Did you like the things they do at school for learning how to write?
11. Did you like to read the books where you learn the letters?
12. Did you like to do exercises for learning to read and write?
13. Do you like to write about what you have read?
14. Do you like to do other activities about what you have read?
15. Do you like to do reading and writing homework that your teacher gives you?
16. Do you like to talk with your classmates about the books you are reading?
17. Do you like to do reading and writing homework with one of your classmates?
18. Do you like to read aloud in class?
19. Do you like to tell other classmates about whether you liked a book that you read?
20. Do you like to read together with another classmate?
21. Is reading easy for you?
22. Is writing easy for you?
23. Was learning how to read easy for you?
24. Was learning how to write easy for you?
25. Is it easy for you to understand the things you read at school?
26. Is it easy for you to understand the words you read?
27. Is it easy for you to remember what you read?

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