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Young Spanish-English speaking children's reading attitudes in relation to language skills

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ABSTRACT

Background: Reading attitudes are recognised as an influencing factor on the language and literacy achievement of school age monolingual English-speaking children. The relationship between reading attitudes and achievement in young Spanish-speaking English Learners (ELs) remains understudied.

Purpose: The aim of the current study was to describe reading attitudes of young Spanish-speaking ELs and to examine the relationship between attitudes and language performance.

Method: The investigators utilised the Elementary Reading Attitudes Survey (ERAS) with 204 participants: 100 ELs in kindergarten and 104 in first grade. Investigators administered standardised measures of language and literacy performance. Correlational analyses were conducted to examine the relationship between attitudes and performance on language assessments.

Findings: Significant mean differences were observed between girls and boys, with girls showing more positive attitudes towards recreational reading. Phonological awareness skills showed a significant strong correlation with academic reading attitudes for children in kindergarten. Spanish receptive vocabulary showed significant positive correlation with reading attitudes. No significant grade differences were found in overall mean reading attitudes.

Conclusions: Overall, students in both grades demonstrated generally positive attitudes towards reading, despite potential language barriers. Findings substantiate a positive relationship between reading attitudes and receptive vocabulary, and phonological awareness skills in young children.

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Attitudes; ELs; reading; early literacy; gender differences; Spanish-speaking

Introduction

There is general acknowledgement that children's attitudes about and interest in reading contribute to early language and literacy outcomes (Petscher 2010). There is a long-established belief that children's reading attitudes (hereafter 'CRA') serve an important role in development of reading skills, the frequency of reading and performance on reading measures (Richek, List, and Lerner 1989). According to Katzir, Lesaux, and Kim (2009), CRA together with perception of ease of reading and reading competence has been found to

have a positive relationship with reading comprehension in fourth-grade students, above and beyond verbal ability and word reading skills. Further, CRA and motivation to engage with text have been positively associated with improved reading comprehension (Shanahan et al. 2010).

Research on CRA, conceptualised as a continuum of ‘feelings related to reading which causes the learner to approach or avoid a reading situation’, has been underway for decades (McKenna, Kear, and Ellsworth 1995, 934). Continued relevancy in the current educational context lies in the potential relationship of CRA to children’s academic achievement and motivation for reading experiences and skill acquisition. Trends have emerged from the body of existing research on CRA suggesting that: (a) good readers exhibit more positive attitudes towards reading compared to poor readers, (b) girls tend to have more positive reading attitudes than boys and (c) younger children possess more positive reading attitudes than older children (Kush and Watkins 1996; Musu-Gillette 2015; Petscher 2010).

Despite decades of research, identified trends and the positive association between CRA with achievement, there are gaps in the current body of literature. One gap is the generalisability of previously reported results to culturally and linguistically diverse populations found in contemporary classrooms in the United States. The findings reported in previous studies were largely derived from participant pools composed of monolingual English speakers; yet a large proportion of students (22%) in the United States speak a language other than English at home (U.S. Census Bureau 2015). The enrolment of Hispanic students in PreK-12th grade (3–18 years old approximately) increased from 8.6 million to 12.1 million (24%) in 2012, and English Learners (ELs) comprised 9.1% of all public school students with an even higher prevalence in urban educational settings (The Condition of Education 2015). More than half the population growth in the US between 2000 and 2010 is attributed to an increase in the Hispanic population (PEW Hispanic Centre, Sherrill and Mayo 2014); yet there remains a paucity of research on CRA of Spanish-speaking English Learners (ELs). The second gap in existing CRA research is noted in the age of participants. Most of the previous studies have focused on students in first grade and older; however, the last decade has demonstrated increased emphasis on early literacy instruction in younger grades. As such, it is of interest to examine if CRA trends are generalisable to children in kindergarten. Accordingly, this study aimed to describe CRA in young Spanish-speaking ELs in the United States and examine the relationship between CRA, and language and literacy performance.

Theoretical background

The theoretical motivation to examine CRA in Spanish-speaking ELs is grounded in the McKenna model. This particular model postulates that there are three main factors that influence the long-term development of CRA: (1) normative beliefs, (2) beliefs about the outcomes of reading and (3) specific reading experiences (McKenna, Kear, and Ellsworth 1995). Based on this model, an individual’s belief system as it is related to reading (e.g. beliefs about societal expectations of reading, beliefs that the outcomes of reading are pleasurable or frustrating) plays an important role in CRA. The model also accounts for the individual’s ability to read and demonstrates how growth in ability may be linked to whether reading is valued within a specific social context. The McKenna model attempts to illustrate the complex nature of the aforementioned factors and how they influence each other, as well as CRA overall (McKenna, Kear, and Ellsworth 1995). Given the relationship between beliefs and

experiences with CRA, there are potentially numerous influencing factors that may explain the variability in the reading attitude of children of culturally and linguistically diverse backgrounds.

Potential influencing factors

The development of children's language and literacy skills takes place within rich contexts of various influences that are both direct and indirect (Weigel, Martin, and Bennett 2005). Likewise, an ecological framework of the development of CRA recognises that there are overlapping influences that contribute to the variability in children's interest in reading and enjoyment of literacy activities (Baker 2003). Among identified factors are influences of the home environment, such as children's frequency of exposure to print, and parents' beliefs about literacy (Baker 2003). Previous studies have examined how specific factors relate to CRA, such as socio-economic status, gender, grade level, cultural influences and language and literacy achievement.

Socio-economic status (SES)

There is a general assumption that access to books influences the frequency of reading and that children of families from low SES backgrounds have less access to books in the home than families with more material resources. Further, there is support in the literature substantiating a significant relationship between the educational level of the caregivers and the frequency of reading to children (Breit-Smith, Cabell, and Justice 2010). Trends in data from the National Assessment of Educational Progress (NAEP) demonstrated that parents with less than a high school education had fewer print materials at home and read to their children less frequently than families of higher socio-economic backgrounds (Ortiz 1986). It has been suggested that parents in low SES families view literacy as 'a skill to be deliberately cultivated' rather than a source of entertainment (Baker 2003, 91). Baker and Scher (2002) conducted a study that examined how beginning readers' motivation for reading related to parental beliefs and their home reading experiences. The authors found that middle-income parents compared to low-income parents were more likely to identify reasons focused on learning when asked why reading is important. Contrastingly, they found that SES did not account for significant variance in children's motivation to read; however, parental endorsement of reading for pleasure was found to be a significant predictor of CRA (Baker and Scher 2002).

Gender

Gender differences in elementary school age children have been investigated in terms of motivation and interest (d'Ailley 2004), language learning and reading performance (Tong et al. 2011) and CRA (Huang, Liang, and Chie 2013; Lam et al. 2009; Pattuelli and Rabina 2010). Previous studies have indicated that girls generally tend to demonstrate more positive reading attitudes than boys. In a recent study, authors Huang, Liang, and Chie (2013) examined gender differences in CRA towards e-books in six elementary classrooms (85 boys, 81 girls). Significant gender differences were found, with girls reporting higher satisfaction with reading an e-book than boys. This trend has also been evidenced previously on reading attitude questionnaire responses related to recreational reading as well as academic reading (Kush and Watkins 1996; McKenna, Kear, and Ellsworth 1995). In contrast, Baker and Scher

(2002) found no gender differences in motivational levels for reading of children in the first grade, concluding that beginning readers have not internalised the potential gender expectation that girls enjoy reading more than boys.

Age and grade level

Findings from previous studies have suggested that there are age- and grade-level differences in attitudes towards reading and particularly for recreational reading-related items. In previous studies, children in early elementary grades or children who had language delays or disorders appeared to enjoy recreational reading more than children in later school age years (e.g. fourth or fifth grade) (Lazarus and Callahan 2010).

Evidence suggests that students' reading attitudes tend to decline over the course of their elementary school years, with increasingly negative attitudes in middle school and high school (Kush and Watkins 1996; Musu-Gillette 2015; Petscher 2010). The NAEP reported that in 2012 approximately 53% of 9-year-olds compared with 27% of 13-year-olds reported reading for pleasure, which was nearly a 30% difference associated between grades (Musu-Gillette 2015). The McKenna model attributes this low CRA to the increased number of leisure options or competing distractions that are more available to children as they get older. Essentially, the model predicts that low interest in reading may be associated with engaging in activities that they perceive to be more pleasurable (McKenna, Kear, and Ellsworth 1995; McKenna et al. 2012).

Cultural affiliation

Cultural affiliation may also contribute to CRAs, in relation to individual beliefs about the value of reading. If the perceived value of reading is low within a specific cultural context, then attitude and interest towards reading may be negatively affected (McKenna, Kear, and Ellsworth 1995). Furthermore, literacy routines and rituals associated with CRA are embedded within a cultural context and the extent to which children rate reading routines to be enjoyable may be influenced by their family literacy routines and practices (Katzir, Lesaux, and Kim 2009). A growing body of research has highlighted cultural influences on literacy experiences and practices in homes relating to literacy interactions (Hammer, 2000; Hammer, Miccio, and Wagstaff 2003; Hammer et al. 2005) and frequency of reading at home (Ortiz 1986). Hammer, Miccio, and Wagstaff (2003) described early home literacy experiences of children who were sequential Spanish-English learners ($n = 15$) and simultaneous dual language learners ($n = 28$). The authors reported that mothers of simultaneous dual language learners read to their children 2–4 days a week on average, compared to mothers of sequential Spanish-English learners, who read once a week on average. They also found differences in the parents' emphasis on literacy achievement between the two groups of language learners (Hammer, Miccio, and Wagstaff 2003). Variability in the home literacy routines of young sequential and simultaneous ELs has been found such that the mothers of simultaneous ELs engage more frequently in 'teaching pre-academic and early literacy abilities' (Hammer, Miccio, and Wagstaff 2003, 27).

Language and literacy achievement

Relatively few studies have explored the causal relationship between CRA and language and literacy achievement (Kush, Watkins, and Brookhart 2005; Martínez, Aricak, and Jewell 2008; Petscher 2010). However, a growing body of evidence suggests that language and literacy

skills partially account for variability in CRA. McKenna, Kear, and Ellsworth (1995) suggested that low CRA, especially in the upper grades, was influenced by poor reading abilities. In fact, decreases in reading attitude are more pronounced in readers who begin the early elementary grades with poor reading abilities. In a study by Kush, Watkins, and Brookhart (2005), CRA at the start of third grade was found to be a significant predictor of reading achievement in seventh grade, indicating that attitude may have a cumulative impact on the developmental relationship between attitude and reading achievement. Senechal (2006) also found an association between students' exposure to books in kindergarten to their frequency of recreational reading in fourth grade. Better reading comprehension was associated with the students who read more frequently for pleasure. Similarly, Martínez, Aricak, and Jewell (2008) found a strong association between fourth-grade students' attitudes towards recreational reading and their performance on a state-wide reading test. Although literacy achievement may explain some of the variability in later school age, it may not be a strong influencing factor during early school age (i.e. kindergarten and first grade) when children are not expected to be independently reading fluently, but engage in joint book reading with adults.

In addition to emergent literacy skills, general language abilities may influence CRA of ELs in early school age. Although there is limited existing literature exploring a potential relationship (Petscher 2010), it would seem reasonable to expect that children with low oral language skills in English may have difficulty participating in specific literacy activities (e.g. shared-book reading, storytelling, answering comprehension questions) which could potentially influence their attitudes and ratings of enjoyment of reading in the early grades. The causal nature or directionality of the relationship between oral language skills and CRA remains largely unexplored for ELs. Despite the inability to discern directionality, however, numerous studies report a significant correlational relationship between attitudes towards reading and language and literacy skills for monolingual English-speaking children.

Research aims

To further explore CRA, the current study aimed to address the questions:

- (1) What are the attitudes of Spanish-speaking ELs towards recreational and academic reading?
- (2) Are there differences between groups of children by grade (kindergarten and first grade) or gender in their attitudes and interest in reading?
- (3) Is there a significant relationship between ELs' attitudes regarding reading and their performance on standardised language and literacy assessments?

Methods

Ethical considerations

The current study took place within six elementary schools in the United States. Participants included 142 children enrolled in elementary schools across Florida and 63 children from an elementary school in Kansas. Participants were invited from schools that had agreed to participate in a larger research project on vocabulary instruction for English Learners. The

study procedures were reviewed and approved by the university's committee on research involving human subjects (HSC#: 2016.18265). Partnering school administrators reviewed and approved the research procedures. The investigators provided written information about the study in English and Spanish to teachers, who then shared invitations with parents of their students who spoke Spanish at home. After informed consent was obtained, the investigators assigned participant numbers to replace any identifying information to ensure confidentiality of the participants.

Participants

Participants were recruited at the beginning of the school year from a larger population of children participating in the grant-funded Bridging for Language Outcomes in the Classroom (BLOOM). The project aimed to develop an intensive vocabulary intervention to improve language and literacy outcomes in young Spanish-speaking ELs. The subsample for the current study was a convenience sample, and included participants from the larger intervention development project at school sites that agreed to invite participation in the reading survey prior to beginning the intervention. In the context of this study, eligible participants were those who were classified as Spanish-speaking ELs as children who were exposed to and used Spanish at home, to varying degrees. Research assistants (RAs) conducted phone interviews in Spanish with families using a standard parent interview form from the BESOS protocol (Bedore et al. 2012). In response to interview questions, parents reported on their child's use of English and Spanish and described language input during a typical weekday (hour by hour) and during a typical weekend day. All parents reported speaking Spanish at home. Approximately 52% reported Spanish as the primary language spoken at home, 21% reported both Spanish and English equally and 27% reported using English more frequently, with some Spanish spoken at home. However, the percentage of Spanish use varied greatly among parents, extended family members, after school caregivers and siblings. Table 1 provides additional demographic information gathered during the phone interview.

A total of 208 children participated in the reading attitude survey, including 102 kindergarten students and 106 first-grade students. The investigators included participants in the analyses if the student was reportedly a Spanish-speaking EL and participated in at least

Table 1. Demographic characteristics of participants and families.

	% of Respondents
<i>Primary language of child</i>	
Spanish	52
Both languages equally	21
English, some Spanish	27
<i>Education level of primary caregiver</i>	
Less than high school diploma	67
High school diploma	23
Some college education	7.7
<i>Family country of origin</i>	
Mexico	49.4
Guatemala	19.5
El Salvador	12.9
Cuba	7.8
Honduras	6.5

one subtest of the reading attitude scale. After excluding four children who did not meet the inclusion criteria, the final sample included 100 kindergarten and 104 first-grade students: 102 males (50%) and 102 females (50%). Based on school reports, 98% were eligible for free lunch and 2% reduced lunch. None of the participants had any identified sensory impairments or other identified disorders. Children were screened for intellectual disabilities using the *Primary Test of Nonverbal Intelligence* (PTONI) (Ehrler and McGhee 2008). The mean standard score on the PTONI for the participants was considered to be within average range, with a mean of 94.21 ($SD = 19$).

Additionally, investigators gathered descriptive data to provide supplemental information about the literacy context of the classrooms of the participants in the study. All partnering schools employed English-only instruction throughout the school day. Table 2 provides descriptive information about the classroom context based on an existing questionnaire that examined teachers' literacy practices in the classroom. The questionnaire was adapted from a previous study conducted by Morrison, Jacobs, and Swinyard (1998) that surveyed 1874 teachers of kindergarten through sixth grade (approximate age 5–12 years old) about the frequency of behaviour of specific literacy activities such as taking their class to the library and setting aside class time for reading, using an 11-point scale (0–10) for 15 items (e.g. How many days out of the last 10 school days did you take your class to the library?). Table 2 summarises the average frequency count for each of the 15 literacy practices across the 21 teachers who completed the questionnaire. The information should be interpreted with recognition that it is not inclusive of all the teachers who participated in the larger BLOOM Project, but instead reflects 21 teachers who returned the survey of literacy practices.

Materials

Children's reading attitudes

The *Elementary Reading Attitude Survey* (ERAS) (McKenna and Kear 1990) is a norm-referenced questionnaire that measures the reading attitude of students in elementary school. The ERAS consists of 20 questions related to attitude towards recreational reading and attitude towards

Table 2. Teachers' use of literacy practices in their classrooms.

Literacy activity	Average frequency in days within a 10 day period
1. Read picture book aloud	8.7
2. Took students to library	3.3
3. Stayed in library with class	.3
4. Students read paperbacks	5.5
5. Read short story in class	7.0
6. Introduced new books to students	7.6
7. Gave class time for reading	9.0
8. Recommended specific titles	6.1
9. Read children's novel to class	2.0
10. Had students talk about books read	7.7
11. Had students talk in class about books	7.1
12. Read children's informational book	5.9
13. Read trade books for instruction*	3.7
14. Read trade books for recreation*	3.8
15. Reading books of students' choosing in class	5.5

Notes: $n = 21$ classroom teachers of kindergarten and first-grade children participated in the reading attitudes survey; however, the two items marked with an asterisk (*) report average frequency for 20 teachers (missing data).

academic reading (e.g. 'How do you feel when you read a book on a rainy Saturday?'). The authors adapted the ERAS by adding Question 21 (i.e. 'How do you feel about reading a book on the computer?'). Although not included in the original ERAS, this question was of particular interest to the authors because the larger funded development project was scheduled to begin implementation of embedded intervention in electronic storybooks on computers one month after administration of the ERAS. Students' responses were recorded using a pictorial format of cartoons that depicted four distinct emotional states (very happy, slightly happy, slightly upset, very upset). Investigators instructed students to colour in the cartoon that best matches their 'mood' in response to each question. The total administration time was approximately 15 min. To score the survey, a point value was assigned to each emotional state (very happy = 4, slightly happy = 3, slightly upset = 2, very upset = 1). This yields a set of three scores for each student: a total score for attitude towards recreational reading (the first 10 items), a total score for attitude towards academic reading (the second 10 items) and a composite score. A composite score of 50 indicates an indifferent attitude towards reading. A score above 50 indicates a positive attitude towards reading and score below 50 indicates a negative attitude towards reading.

The ERAS was normed on 18,138 students in Grades 1 to 6 (approximate ages 6–12) from 95 school districts in 38 states in the United States. The normative sample reportedly reflected the US population distribution with regard to sex and race/ethnicity. The authors of the ERAS reported a Cronbach's alpha coefficient for first grade of .87 for the full scale, indicating good internal consistency of attitudes. For individual subtests, the internal consistency measures for first grade were as follows: .74 for the recreational subscale and .81 for the academic subscale. The authors of the ERAS reported that factor analyses were conducted using the unweighted least squares method of extraction and varimax rotation. Although three factors were initially identified, the three recreational items that may have been considered a third factor loaded more heavily with recreational than academic factors. The authors elected to constrain two factors, understanding that item numbers 6, 9 and 10 may not have as good fit with the recreational domain as other items. These individual items included: feelings about starting a new book; feeling about going to the bookstore; and feelings about different kinds of books. These items seem less related to recreational reading and perhaps transcend across domains; however, for the sake of comparing scores with previous studies, all items were retained in the existing domains for the present study.

Students' language and literacy performance

The *Woodcock Reading Mastery Tests, Third Edition (WRMT-III)* (2011) letter identification, phonological awareness and rapid automatic naming subtests were administered in the fall of the school year. The WRMT could not be administered to all participants due to absences and constraints on the number of assessments at participating school sites. The WRMT-III is a set of tests for measuring oral language and academic achievement, normed on individuals aged 4–79-years-old. The test takes approximately 5 min per subtest. The soundness of the norms comes from its large representative sample with normative data gathered on 3,360 individuals (including 2,600 school age participants) in 45 states in the United States. Split-half reliability for each subtest on Form A is as follows for kindergarten: .91 for Letter Identification, .92 for Phonological Awareness and .83 for Rapid Automatic Naming. For first grade, split-half reliability for each subtest on Form A is as follows: .69 for Letter Identification and .91 for Phonological Awareness. Form A was utilised for this study.

As part of the WRMT-III, the 'RAN' subtest was administered. Rapid automatized naming (RAN) refers to a task in which the examiner presents an individual with a series of pictures of commonly recognised symbols (e.g. objects, colours, numbers, letters) (Denckla 1976a; 1976b). During a RAN task, which is a timed task, the examiner asks the child to label each symbol in the series as rapidly as possible (Denckla and Rudel 1974; Wolf and Denckla 2005). The rate of naming, combined with accuracy, is used to compute a RAN score. The RAN score is thought to reflect the integration of a variety of skills including attention, perception and cognitive-linguistic processing (González-Garrido et al. 2011). RAN has been found to relate to reading abilities and is considered to be a predictor of reading fluency (Norton and Wolf 2012). Following the standard procedures for administering and scoring the WRMT subtest, the two subtests with the highest performance were used for calculating the standard score.

Receptive English vocabulary

The *Peabody Picture Vocabulary Test-4*, PPVT-4 (Dunn and Dunn 2007) is an untimed, norm-referenced, individually administered measure of receptive vocabulary (normed for individuals 2- to 90-years-old). The assessment takes 10–15 min to administer and the student is asked to indicate which picture best fits the meaning of the word, given a choice of four. The measure was normed on 3540 individuals in the United States reflecting the US population distribution with regard to sex, race/ethnicity, geographic region, socio-economic status and clinical diagnosis. Split-half reliability by age for Form A and Form B was $M = .94$ ($SD = 3.6$), and range from .90 to .97 for ages 5–11. Form A was administered for all participants in the sample.

Receptive Spanish vocabulary

The *Test of Vocabulario Imágenes* (TVIP) (Dunn et al. 1986) was administered in September, as a descriptive measure of the participants' receptive Spanish vocabulary skills. The TVIP is a norm-referenced measure of receptive vocabulary in Spanish designed for ages 2; 6–17; 11 years. Similar to the PPVT-III, the TVIP takes 10–15 min to administer, as the child is asked to point to a desired picture given a choice of four. The TVIP was normed on 2707 monolingual Spanish-speaking children from Mexico and Puerto Rico. Median reliability was .93.

Procedures

CRA was measured using the *ERAS*. The authors provided a written script explaining the directions for completing the survey to ensure consistency of administration procedures across research assistants. Two doctoral students who were fluent in Spanish translated the script and survey questions. The translation was checked by a heritage speaker of Spanish who was a professor in the graduate programme. Additionally, the content was back-translated through an online Spanish-to-English translator to further check translation accuracy. Research assistants administered the *ERAS* by reading aloud a script to groups of 2–4 students at a time. The directions and survey questions were presented to students in English and Spanish to ensure complete comprehension. Administration time was approximately 15–20 min. Adults reassured children that the survey was not a test, and encouraged them to be honest about their answers. Scoring procedures followed the standardised instructions provided by McKenna and Kear (1990). Each survey was scored independently by two research assistants in an attempt to ensure accuracy. The investigators corrected and resolved any discrepancies in scoring.

There were three variations from the standard procedures for administering the *ERAS* to adapt to the current population of interest and research questions. Adaptations included checking for understanding, translation to Spanish and adding an additional question item. Question 19 on the *ERAS* asked the students how they felt about using a dictionary. Given the students' age and the researchers' lack of knowledge about the children's prior exposure to a dictionary, a receptive probe was designed to examine the students' recognition of the meaning of dictionary. The receptive probe was administered to participants prior to the survey. Students were instructed to identify the *dictionary* from a field of four pictures that included *calendar*, *dinosaur* and *pentagon*. The second adaptation to standard procedures was the provision of the items in Spanish. All items were presented orally in English and subsequently in Spanish. Finally, one additional question (Question 21) was added to the survey to examine and describe how students felt about reading books on the computer. This question, however, was not included in the total score.

Analyses

To address the first research aim, the investigators conducted descriptive analyses on the *ERAS* scores. A point value was assigned to each response on the *ERAS*. The points were added to yield a set of three scores: a recreational reading attitude score, an academic reading attitude score and a composite *ERAS* total score. To answer the second research question, analysis of variance was conducted with two between subjects effects (grade and gender) and within subjects effects (recreational and academic reading attitudes, and total composite *ERAS* score) to examine differences in CRA between recreational and academic reading and to examine CRA differentially between girls and boys and grade levels. To address the third research aim, Pearson correlation coefficients were examined to observe the strength of the relationship between reading attitudes and children's performance on the standardised language and literacy assessments.

Results

The first research question aimed to describe the attitudes of Spanish-speaking ELs towards recreational and academic reading. According to the *ERAS* scoring rubric, a composite score above 50 suggests a positive reading attitude. Descriptive results indicate that the Spanish-speaking ELs in this study demonstrated generally positive attitudes and interest towards reading, as evidenced by a mean composite score on the *ERAS* of 63.7 ($SD = 11.3$), which was comprised of the mean recreational reading attitude score ($M = 32.1, SD = 5.7$), and mean academic reading attitude score ($M = 31.5, SD = 6.6$). There were no significant mean differences between recreational and academic categories for the total sample of participants ($p = .06$). On individual items, children demonstrated a range of attitudes. The distribution of children's responses on recreational items on the survey is provided in Table 3 and the academic items are provided in Table 4.

Results on one individual question item should be interpreted cautiously, in particular for the question item that referred to a *dictionary* (i.e. 'How do you feel about using a dictionary?'). Given concerns about young children's knowledge of the term *dictionary*, the investigators administered a researcher-developed receptive probe to a subsample of 58% of the children, asking the child to identify the *dictionary* from an array of four pictures.

Table 3. Distribution of responses on recreational items of the reading attitudes survey.

Recreational Reading for Kindergarten and First grade				
Recreational reading questions	Mean rating score	SD	Slightly upset to very upset (%) [*]	Slightly happy to very happy (%) [*]
1. Read on rainy day	3.3	1.0	23.2	76.8
2. Read in school free time	3.2	1.1	23.1	77.0
3. Read for fun at home	3.1	1.1	27.9	72.1
4. Get a book for gift	3.4	1.0	20.8	79.2
5. Free time reading	3.3	1.2	22.0	78.1
6. Start a new book	3.2	1.1	23.5	76.4
7. Read during vacation	3.1	1.1	29.3	70.8
8. Read instead of play	2.8	1.3	42.7	57.4
9. Go to a bookstore	3.5	1.0	13.2	86.8
10. Read different books	3.2	1.1	24.9	75.1

^{*}1 = very upset, 2 = slightly upset, 3 = slightly happy, 4 = very happy.

Table 4. Distribution of responses on academic items of the reading attitudes survey.

Academic reading for Kindergarten and First grade				
Academic reading questions	Mean rating score	SD	Slightly upset to very upset (%) [*]	Slightly happy to very happy (%) [*]
11. Teacher asks questions	3.2	1.1	27.3	72.6
12. Reading worksheets	3.0	1.2	33.5	66.5
13. Read in school	3.4	1.1	17.5	82.5
14. Read school books	3.2	1.1	21.2	78.8
15. Learn from a book	3.2	1.1	25.9	74.1
16. Reading class	3.2	1.1	26.3	73.6
17. Stories read in class	3.3	1.0	20.5	79.6
18. Read out loud	2.6	1.2	49.5	50.5
19. Use a dictionary	3.2	1.1	25.8	74.1
20. Take reading test	3.1	1.2	30.3	69.8
21. Read book on computer	3.6	1.0	13.6	86.5

^{*}1 = very upset, 2 = slightly upset, 3 = slightly happy, 4 = very happy.

Approximately 24.4% of students were able to correctly identify the dictionary correctly, indicating Question 19 is not likely to have been a meaningful question for the majority of this cohort of English Learner participants; however, it was retained to allow for composite score comparison.

Group differences: gender and grade

To address the second research aim to examine differences between groups of children by grade or gender in their attitudes and interest in reading, we conducted analyses of variance. Table 5 reports the mean attitude ratings by grade and gender for recreational reading, academic reading and the total composite score. Significant mean differences were noted between boys and girls for the recreational subcategory, $F(1, 202) = 1.97, p < .05$ and ERAS total score $F(1, 197) = 6.18, p = .01$. As noted on Table 5, girls generally exhibited higher mean recreational and total scores compared to boys. There were no significant grade differences in total CRA scores ($p = .19$). Additionally, Question 21 was analysed separately to examine and describe how students felt about reading books electronically on the computer, as this related to the larger research project in which a vocabulary intervention was embedded within electronic storybooks. An independent t-test found no significant differences

Table 5. Reading attitudes by grade and gender.

	Kindergarten				First grade			
	Males		Female		Males		Female	
	<i>n</i> = 45		<i>n</i> = 54		<i>n</i> = 57		<i>n</i> = 49	
	M	SD	M	SD	M	SD	M	SD
Recreation total	31.7 <i>n</i> = 43*	6.1	33.7 <i>n</i> = 53*	4.6	30.2	6.3	33.1	5.0
Academic total	30.4 <i>n</i> = 44*	6.6	33.5 <i>n</i> = 52*	5.4	30.7 <i>n</i> = 55*	7.4	31.1	6.2
ERAS total	62.3 <i>n</i> = 42*	12.3	67.2 <i>n</i> = 51*	8.9	61.3 <i>n</i> = 55*	12.8	64.1	10.1

*The number of participants for ERAS total varied due to missing data on one or more items.

Table 6. Correlations between children's reading attitudes and performance on language and literacy tests.

	N	Mean	SD	ARA	RRA	PPVT	TVIP	PA	LI	RAN
1. Academic Reading Attitude (ARA)	200	31.53	6.6	–	.68**	–.08	.21*	–.17	.07	–.02
2. Recreational Reading Attitude (RRA)	202	32.14	5.7	.71**	–	–.01	.24*	–.10	.01	.14
3. PPVT	200	71.33	24.9	.06	.09	–	.06	.47**	.07	.12
4. TVIP	179	24.88	19.4	.15	.07	–.11	–	.09	.14	–.00
5. WRMT-PA	64	19.89	7.3	.51*	.34	.43	–.04	–	.15	–.17
6. WRMT-LI	91	14.01	5.0	.03	.06	.41**	.38*	.34	–	.17
7. WRMT-RAN	151	19.57	6.3	–.10	–.11	–.03	.37*	.27	.38	–

Notes: All values were rounded to the hundredth place.

Grey text represents correlation coefficients for kindergarten; black font in italics represents correlation coefficients for children in first grade.

PPVT and TVIP reflect raw scores on the *Peabody Picture Vocabulary Test* (Dunn and Dunn 2007) and *Test of Vocabulary Imagenes* (Dunn et al. 1986) respectively.

WRMT-PA, WRMT-LI and WRMT-RAN reflect raw scores on the *WRMT* subtests for Phonological Awareness, Letter Identification and Rapid Automatic Naming, respectively (Woodcock 2011).

* $p < .05$; ** $p < .01$.

between boys and girls regarding their attitudes about reading books on the computer ($p = .90$).

Relationship between reading attitudes and performance on standardised tests

To address the third research aim, examining the relationship between ELs' attitudes regarding reading and their performance on standardised language and literacy assessments, we report the results of Pearson correlational analyses. As demonstrated in Table 6, there was a small positive significant relationship between CRA overall and children's performance on standardised receptive vocabulary tests in Spanish ($r = .17, p = .03$) particularly for the subtest of questions related to reading attitudes on academic items ($r = .16, p = .03$). In other words, high receptive vocabulary in Spanish was associated with high positive reading attitudes for ELs, although the magnitude of the relationship was very small. Recreational reading attitudes also demonstrated a small positive significant relationship with receptive Spanish vocabulary skills for first-grade participants ($r = .24, p = .02$) but was non-significant for children in kindergarten ($r = .07, p = .51$). There was also a significant moderately strong positive relationship between kindergarten children's reading attitudes and performance on the

WRMT phonological awareness subtest ($r = .514, p = .02$). In other words, children in kindergarten who demonstrated highly positive CRA were more likely to demonstrate high scores on the phonological awareness subtest than children with low or negative CRA.

Discussion

The current study examined the reading attitudes of Spanish-speaking ELs in kindergarten and first grade (approximate ages 5–7). Overall, students in both grades demonstrated generally positive attitudes towards reading, despite potential language barriers to reading experiences for this particular sample of students. The lack of difference between students' recreational reading attitudes and academic reading attitudes suggested that students did not have strong preferences, on average, for reading in different contexts. Overall, there were no significant mean differences in CRA between kindergarten and first-grade participants. Findings also suggested that girls in both kindergarten and first grade demonstrated more positive reading attitudes than boys. Additionally, results indicated that higher Spanish receptive vocabulary skills were associated with higher or more positive reading attitudes. For kindergarten participants, positive academic reading attitudes were also associated with better phonological awareness skills. Students' overall reading attitude was not otherwise associated with their English receptive vocabulary, rapid automatic naming or other performance indicators tested.

The overall picture demonstrated by the ELs in the current study has resonance with McKenna, Kear, and Ellsworth (1995), in which first-grade children demonstrated an average recreational reading rating of 31.0 (5.7) and an average academic reading rating of 30.1 ($SD = 6.8$). The similarity of the current ratings to previous findings (1995) suggests that reading attitudes for this sample of linguistic minority EL students were not dramatically different from those reported previously, despite the fact that it was nearly a decade ago and the cultural and linguistic landscapes of classrooms in the United States have changed notably. The ELs' overall positive mean attitude appears somewhat surprising, given the potential language barriers to reading experiences for ELs in early school grades.

The finding that girls demonstrated more positive attitudes than boys is consistent with several previous studies (Kush and Watkins 1996; McKenna and Kear 1990; McKenna, Kear, and Ellsworth 1995; McKenna et al. 2012). The finding conflicts with the results of Baker and Scher's (2002) study that found no gender differences for African-American and European American children in first grade and proposed that perhaps children in first grade had not yet internalised the cultural gender expectations. Similarly, the fact that significant gender differences were not detected for the e-book item is worth comment, as it was inconsistent with the findings of Huang, Liang, and Chie (2013) that girls reported higher satisfaction with reading e-books than boys. McKenna et al. (2012) also found significant gender effects for digital reading: specifically, that girls demonstrated more positive attitudes towards academic digital reading, whereas boys demonstrated more positive attitudes towards recreational digital reading. Given this discrepancy, it would be interesting to observe CRA between genders longitudinally.

The lack of significant grade differences was not something we expected. Previous research has shown insignificant differences between early grades (Kush and Watkins 1996; Kush, Watkins, and Brookhart 2005); however, the current study included participants in kindergarten, whereas such participants were not included in previous studies. It was

thought that perhaps children in kindergarten would show significantly different attitudes compared with children in the first grade. Petscher (2010) conducted a meta-analysis to examine the relationship between reading attitudes and reading achievement, and found a stronger effect of grade for elementary students than middle school students. This finding gives weight to the claim that reading attitudes tend to decline as children get older, potentially influenced by leisure activities that compete with the activity time for reading (McKenna, Kear, and Ellsworth 1995; McKenna et al. 2012). Differential grade effects may have not been observed in this study due to the limited range in age of the students in the participant pool. Nevertheless, the current findings suggest that the previous results of the *ERAS* may be applicable to children in kindergarten. It would be interesting to compare the reading attitudes of ELs in early and later grades to further investigate differential grade effects in CLD populations.

Further discussion and limitations

As the children's exposure to English varied considerably, it is possible that the English assessments reflected their relative exposure to English and not necessarily their general language maturity. Although studies examining the reading attitudes of ELs are limited, the current findings were relatively consistent with previous studies focusing on monolingual English-speaking children in which reading attitude and reading ability were not strongly associated in early elementary grades (Kush, Watkins, and Brookhart 2005). Although this study did not include a longitudinal component, it would be interesting to examine if the strength of the relationship changes as children progress through grades. The literature on monolingual English-speaking children suggests that CRA begins to impact reading achievement as children become older and that the weight of its impact changes over time (Martínez, Aricak, and Jewell 2008).

Of course, the nature of the significant relationship between children's Spanish receptive vocabulary and CRA cannot be fully understood from the evidence analysed by the current study. It is possible that children with higher Spanish vocabulary had experienced more language exposure and/or reading experiences in their home. It is also possible that general vocabulary in the children's first language supports comprehension of reading at home and therefore children might be expected to rate reading experiences more enjoyable. Although frequent book exposure and amount of time spent reading have been associated positively to the development of CRA in the literature for monolingual English speakers (Kush, Watkins, and Brookhart 2005; Senechal 2006), the home literacy environment was not examined concurrently in this study. Based on theories suggesting that reading attitudes are often shaped by early reading experiences (McKenna, Kear, and Ellsworth 1995), it seems plausible that home language experiences influence attitudes; however, identifying the cause of the relationships is beyond the scope of the current research design.

Additionally, the finding that children in kindergarten who demonstrated highly positive reading attitudes were more likely to have higher scores on the phonological awareness subtest than children with low or negative academic reading attitudes was an interesting finding. Although a causal relationship should not be assumed, it may be the case that children with more positive attitudes towards academic reading activities may have more frequent print exposure which is associated with phonological awareness acquisition. Equally possible, however, is that children with better phonological awareness skills tend to have

better emergent literacy skills in general and therefore have more positive reading attitudes because they are skilled at it and associate reading with successful experiences. Finally, it is also possible that phonological awareness and reading attitudes share a completely different common variable that was not assessed in the current study, as it is readily recognised that determining the cause of the relationship is beyond the score of the research design utilised.

As noted previously, explaining the nature of the relationship between reading attitudes and language and literacy performance is beyond the scope of the current study. Results must be interpreted cautiously, as the ERAS was not originally normed for Spanish-speaking ELs nor students in kindergarten. Although the survey was administered in both English and Spanish to facilitate students' comprehension, students' level of understanding in either language may have affected their responses. As previously stated, some students were not able to identify a dictionary; therefore, the question regarding students' use of a dictionary may have not been meaningful for this sample. In addition, the current study used a convenience sample rather than random sampling. The lack of differences in CRA between kindergarten and first grade may be a reflection of sampling differences. It is also important to note that the trends in the current findings may not generalise to ELs from other backgrounds that differ from the demographic characteristics of the current participant group. Since the current participants were from low socio-economic family backgrounds, it cannot be assumed that similar findings would be obtained if the survey was repeated with ELs from higher socio-economic backgrounds or ELs in different grades.

Additionally, results should be interpreted cautiously with the context of the current study in mind, noting that the children's attitudes may be influenced by the immediate school environment in which they took the survey. It is possible that the teacher's tone, the physical characteristics of the reading area or other factors may have influenced the children's attitude ratings. The overall positive attitudes may be particular to the early elementary grades included in this study: other trends may have been observed if older children from upper elementary grades were included as well.

Implications and future research

Despite the recognised limitations, the finding that ELs from low socio-economic backgrounds showed overall positive attitudes towards reading appears encouraging. The fact that the children in the current study showed similar levels of interest in reading activities as children in previous national studies is positive, particularly in the light of the fact that previous studies included monolingual participants from high resource backgrounds. Although the nature of the relationship between Spanish receptive vocabulary skills and reading attitude cannot be conclusively explained in the current design, it is nevertheless encouraging that first language skills are likely to support rather than harm and are not in any way associated with negative academic reading attitudes. Rather, exposure to positive and enriching literacy practices, in and out of the classroom, may lay the groundwork for positive attitudes towards reading – regardless of children's linguistic background.

Further research is needed to provide further insights in terms of leveraging CRA when children are reading in their first language towards experiences in additional language literacy. The participants in the current study were attending schools where the language of instruction and reading materials were in English. However, Spanish-speaking ELs may

benefit from strategies that capitalise on their interest in reading Spanish, or literacy activities that highlight cognates or transfer of first language knowledge to increase engagement in reading activities.

The current findings report a snapshot at one time point. It would be interesting to conduct a longitudinal study examining CRA over time, and to gather other educational achievement data in future studies to examine the relationship between children's reading attitudes and other educational factors that may jointly contribute to differences in child language and literacy outcomes. In addition, further research is needed to examine the effects of heritage language literacy practices in the home and school settings on CRA for children from culturally and linguistically diverse backgrounds.

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References

- Baker, L. 2003. "The Role of Parents in Motivating Struggling Readers." *Reading & Writing Quarterly* 19: 87–106.
- Baker, L., and D. Scher. 2002. "Beginning Readers' Motivation for Reading in Relation to Parental Beliefs and Home Reading Experiences." *Reading Psychology* 23: 239–269.
- Bedore, L. M., E. D. Peña, C. L. Summers, K. M. Boerger, M. D. Resendiz, K. Greene, T. M. Bohman, and R. B. Gillam. 2012. "The Measure Matters: Language Dominance Profiles across Measures in Spanish-English Bilingual Children." *Bilingualism: Language and Cognition* 15 (3): 616–629.
- Breit-Smith, A., S. Q. Cabell, and L. M. Justice. 2010. "Home Literacy Experiences and Early Childhood Disability: A Descriptive Study Using the National Household Education Surveys (NHES) Program Database." *Language, Speech, and Hearing Services in Schools* 41: 96–107. doi:10.1044/0161-1461(2009/08-0048).
- d'Ailley, H. 2004. "The Role of Choice in Children's Learning: A Distinctive Cultural and Gender Difference in Efficacy, Interest, and Effort." *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement* 36 (1): 17–29.
- Denckla, M. B., and R. Rudel. 1974. "Rapid 'Automatized' Naming of Pictured Objects, Colors, Letters and Numbers by Normal Children." *Cortex* 10: 186–202. doi:10.1016/S0010-9452(74)80009-2.

- Denckla, M. B., and R. G. Rudel. 1976a. "Naming of Object-Drawing by Dyslexic and Other Learning Disabled Children." *Brain and Language* 3 (1): 1–15. doi:10.1016/0093934X(76)90001-8.
- Denckla, M. B., and R. G. Rudel. 1976b. "Rapid 'Automatized' Naming (R.a.N.): Dyslexia Differentiated from Other Learning Disabilities." *Neuropsychologia* 14 (4): 471–479. doi:10.1016/0028-3932(76)90075-0.
- Dunn, L. M., and L. M. Dunn. 2007. *Peabody Picture Vocabulary Test- Fourth*. Circle Pines, MN: American Guidance Service.
- Dunn, L., S. Lugo, R. Padilla, and L. Dunn. 1986. *Test De Vocabulario En Imagenes Peabody* [Peabody Picture Vocabulary Test]. Circle Pines, MN: American Guidance Service.
- Ehrler, D. J., and M. L. McGhee. 2008. *Primary Test of Nonverbal Intelligence (PTONI)*. Austin, TX: Clocktower Hill Research and Publishing Group LLC.
- González-Garrido, A. A., F. R. Gómez-Velázquez, D. Zarabozo, B. A. Ruiz-Villeda, and J. M. de la Tuya. 2011. "Rapid Automatized Naming and Lexical Decision in Children from an Electrophysiological Perspective." *Clinical EEG and Neuroscience* 42 (1): 14–23.
- Hammer, C. S. 2000. "'Come Sit down and Let Mama Read:' Book Reading Interactions between African American Mothers and their Infants." In *Literacy in African American Communities*, edited by J. Harris, K. Pollock and A. Kamhi, 21–44. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Hammer, C. S., A. W. Miccio, and D. A. Wagstaff. 2003. "Home Literacy Experiences and Their Relationship to Bilingual Preschoolers' Developing English Literacy Abilities." *Language, Speech, and Hearing Services in Schools* 34: 20–30.
- Hammer, C. S., D. Nimmo, R. Cohen, H. C. Draheim, and A. A. Johnson. 2005. "Book Reading Interactions between African American and Puerto Rican Head Start Children and Their Mothers." *Journal of Early Childhood Literacy* 5 (3): 195–227.
- Huang, Y.-M., T.-H. Liang, and C.-H. Chie. 2013. "Gender Differences in the Reading of E-Book Attitudes, Reading Behaviors and Outcomes." *Educational Technology & Society* 16 (4): 97–110.
- Katzir, T., N. K. Lesaux, and Y.-S. Kim. 2009. "The Role of Reading Self-Concept and Home Literacy Practices in Fourth Grade Reading Comprehension." *Reading and Writing* 22 (3): 261–276.
- Kush, J. C., and M. W. Watkins. 1996. "Long-Term Stability of Children's Attitudes toward Reading." *The Journal of Educational Research* 89 (5): 315–319.
- Kush, J. C., M. W. Watkins, and S. M. Brookhart. 2005. "The Temporal-Interactive Influence of Reading Achievement and Reading Attitude." *Educational Research and Evaluation* 11 (1): 29–44.
- Lam, P., S. L. Lam, J. Lam, and C. McNaught. 2009. "Usability and Usefulness of E-Books on PPCs: How Students' Opinions Vary over Time." *Australasian Journal of Educational Technology* 25 (1): 110–124.
- Lazarus, B. D., and T. Callahan. 2010. "Attitudes toward Reading Expressed by Elementary School Students Diagnosed with Learning Disabilities." *Reading Psychology* 21 (4): 271–282. doi:10.1080/027027100750061921.
- Martínez, R. S., O. T. Aricak, and J. Jewell. 2008. "Influence of Reading Attitude on Reading Achievement: A Test of the Temporal-Interaction Model." *Psychology in the Schools* 45 (10): 1010–1023.
- McKenna, M. C., and D. J. Kear. 1990. "Measuring Attitude toward Reading: A New Tool for Teachers." *The Reading Teacher* 43: 626–639.
- McKenna, M. C., D. J. Kear and R. A. Ellsworth. 1995. "Children's Attitudes toward Reading: A National Survey." *Reading Research Quarterly* 30 (4): 934–956.
- McKenna, M. C., K. Conradi, C. Lawrence, B. G. Jang, and J. P. Meyer. 2012. "Reading Attitudes of Middle School Students: Results of a U.S. Survey." *Reading Research Quarterly* 47 (3): 283–306.
- Morrison, T. G., J. S. Jacobs, and W. R. Swinyard. 1998. "Do Teachers Who Read Personally Use Recommended Literacy Practices in Their Classrooms?" *Reading Research and Instruction* 38 (2): 81–100.
- Musu-Gillette, L. 2015. *Reading for Fun: Using NAEP Data to Explore Student Attitudes*. [Web log comment]. Accessed November 3. <https://nces.ed.gov/blogs/nces/post/reading-for-fun-using-naep-data-to-explore-student-attitudes>.
- Norton, E. S., and M. Wolf. 2012. "Rapid Automatized Naming (RAN) and Reading Fluency: Implications for Understanding and Treatment of Reading Disabilities." *Annual Review of Psychology* 63: 427–452.
- Ortiz, V. 1986. "Reading Activities and Reading Proficiency among Hispanic, Black, and White Students." *American Journal of Education* 95: 58–76.

- Pattuelli, M. C., and D. Rabina. 2010. "Forms, Effects, Function: LIS Students' Attitudes toward Portable E-Book Readers." *Aslib Proceedings* 62 (3): 228–244.
- Petscher, Y. 2010. "A Meta-Analysis of the Relationship between Student Attitudes towards Reading and Achievement in Reading." *Journal of Research in Reading* 33 (4): 335–355.
- Richek, M. A., L. K. List, and J. Lerner. 1989. *Reading Problems: Assessment and Teaching Strategies*. Englewood Cliffs, NJ: Prentice Hall.
- Senechal, M. 2006. "Testing the Home Literacy Model: Parent Involvement in Kindergarten is Differentially Related to Grade 4 Reading Comprehension, Fluency, Spelling, and Reading for Pleasure." *Scientific Studies of Reading* 10 (1): 59–87.
- Shanahan, T., K. Callison, C. Carriere, N. K. Duke, P. D. Pearson, C. Schatschneider, and J. Torgesen. 2010. *Improving Reading Comprehension in Kindergarten through 3rd Grade: A Practice Guide (NCEE 2010-4038)*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. <http://whatworks.ed.gov/publications/practiceguides>.
- Sherrill, W., and R. Mayo. 2014. "Medical and Nursing Student Communication Skills: Preparing to Treat Latino Patients." *Journal of Communication in Healthcare* 7 (2): 128–136. doi:10.1179/1753807614y.0000000052.
- Tong, F. H., R. Lara-Alecio, B. J. Irby, and P. G. Mathes. 2011. "The Effects of an Instructional Intervention on Dual Language Development among First-Grade Hispanic English-Learning Boys and Girls: A Two-Year Longitudinal Study." *The Journal of Educational Research* 104 (2): 87–99.
- U.S. Census Bureau. 2015. *Components of Population Change by Race and Hispanic Origin Statistical Abstract*. https://www.census.gov/compendia/statab/cats/population/estimates_and_projections_by_age_sex_raceethnicity.html.
- Weigel, D. J., S. S. Martin, and K. K. Bennett. 2005. "Ecological Influences of the Home and Child-Care Center on Preschool-Age Children's Literacy Development." *Reading Research Quarterly* 40 (2): 204–233.
- Wolf, M., and M. B. Denckla. 2005. *RAN/RAS: Rapid Automatized Naming and Rapid Alternating Stimulus Tests*. Austin, TX: Pro-ed.
- Woodcock, R. W. 2011. *Woodcock Reading Mastery Tests, Third Edition (WRMT)*. San Antonio, TX: Pearson.