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## EXAMINING THE RELATIONSHIP BETWEEN READING ABILITY AND READING SELF-CONCEPT IN DIFFERING SOCIO-ECONOMIC SCHOOLS

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EXAMINING THE RELATIONSHIP BETWEEN READING  
ABILITY AND READING SELF-CONCEPT IN DIFFERING  
SOCIO-ECONOMIC SCHOOLS

BY  
LILY HALL

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF ARTS  
IN  
PSYCHOLOGY

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MASTER OF ARTS THESIS

OF

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2014

## **ABSTRACT**

The purpose of this study was to examine the relationships between reading performance and reading self-concept for a sample of fifth-grade students attending schools with higher and lower socio-economic status (SES). Fifth-grade students (N=102) from one higher and two lower SES schools were assessed on five different measures: three standardized reading measures including word recognition, decoding, and passage comprehension tasks, one standardized receptive vocabulary test, and one reading self-concept scale. Results showed significant differences between groups on the word recognition, passage comprehension, and vocabulary knowledge measures, with students of the higher SES cohort performing better on these measures than did the lower SES group. No significant differences were found between groups on the decoding measure. Notably, despite contrast in overall language and literacy performances, there was not a significant difference between the SES groups on reading self-concept ratings. Nonetheless, reading performance was the biggest predictor of reading self-concept, although SES was found to be a modest predictor when the other variables were controlled. These results suggest that reading self-concept is a comparison variable influenced more by peer group comparisons than by SES itself.

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## CHAPTER 1

### INTRODUCTION

Examination of the differences between socio-economic groups on reading performance and reading self-concept have not been studied sufficiently. Although research indicates a strong positive relationship between reading achievement and reading self-concept, and a strong positive association between reading achievement and socio-economic influences, little research has been conducted directly pertaining to links between reading self-concept and socio-economic status (SES) (e.g., Chall, Jacobs, & Baldwin, 1991; Chapman & Tunmer, 1995; 1997; Chapman, Tunmer, & Prochnow, 2000; Duncan & Seymour, 2000; Rider & Colmar, 2006).

Findings have confirmed that children who are good readers are more likely to have positive self-concepts related to their reading abilities, whereas poor readers are more likely to have negative reading self-concepts (Chapman & Tunmer, 1995; 1997; Chapman et al., 2000). Correspondingly, poor readers often have a lack of motivation regarding reading, and experience more negative feelings, such as anger, sadness, and unpopularity (Guthrie & Wigfield, 1997; Morgan, Farkas, & Wu, 2012; Park, 2011). Yet, the level of reading achievement associated with self-identifying as a poor reader may differ depending both on the SES of the school the child is attending and the child's background.

#### **Defining Reading Self-Concept**

Many individual constructs and factors may influence reading motivation, however the majority of reading motivation research and theory has focused on reading self-concept or reading self-efficacy (Bong & Skaalvik, 2003; Guthrie, 2008; Guthrie & Wigfield, 1997). Chapman and colleagues (2000) defined reading self-concept as an individual's perceptions of his or her reading abilities and the degree to which the individuals view reading as a valuable skill. Slightly differently, Schunk and Zimmerman (1997) defined self-efficacy as the beliefs an individual holds about his or her abilities to learn and perform at a specific level.

The two concepts are similar in that they both describe an individual's perception of competence in a specific skill related to academics (Bong & Skaalvik, 2003). Yet, they differ in a few ways. First, self-concept describes how an individual perceives his or her abilities based on past performances, while self-efficacy describes an individual's confidence level to successfully achieve a specific goal in the future. Second, academic self-concept elicits a normative self-evaluation of competence, whereas academic self-efficacy elicits a goal-oriented self-evaluation of competence. Furthermore, self-concept depends on social comparison while self-efficacy relies on an individual's goals that are met through experiences (Bong & Skaalvik, 2003). Lastly, self-concept is considered an invariable concept over time (Chapman & Tunmer, 1997), whereas self-efficacy is more variable (Meece & Holt, 1993).

### **Reading Self-Concept and Socio-Economic Status**

As noted, research has yet to examine the effects of SES on reading self-concept. However, a few studies have examined the impact of SES on academic self-concept. For example, Marsh and Parker (1984) investigated how both individual and school SES and

academic ability are related to academic self-concept by studying 305 sixth-grade students from schools with differing SES levels. Academic self-concept was measured with the Self Description Questionnaire (SDQ), a 62-item questionnaire with seven dimensions (i.e., Physical Abilities, Physical Appearance, Relationship with Peers, Relationship with Parents, and self-descriptions of prowess in Reading, Math, and all School Subjects). Academic ability was based on individual student IQ scores, and academic ability for each school as a whole was calculated as the average of the students' IQ scores.

As predicted, the students who attended the three higher SES schools reported lower academic self-concepts (based on the combined self-concept ratings of reading, math, and general school subjects) than did the students from the two lower SES schools. Further, the study indicated that those students from the higher SES schools who performed at an average level academically had lower self-concepts than did the students from the lower SES schools who also had performed at an average level. Marsh and Parker (1984) surmised that prevailing standards in higher SES schools result in higher individual expectations for academic performance, although they did not evaluate the impact of SES on reading self-concept per se. The researchers commented that attending a higher SES school may generally lead to better academic performance but lower academic self-concept, whereas students from a lower SES school may test a bit lower than would the higher SES school's students, but perhaps would hold more positive perceptions of their academic abilities. These findings suggest that it is not lower SES itself that causes these fluctuations in academic self-concept, but it is the environment, the students' comparison groups, and how their fellow peers are doing.

## **Reading Self-Concept and Reading Achievement**

Learning to read is one of the most essential academic accomplishments in elementary school development (e.g., Cunningham & Stanovich, 1997; Rider & Colmar, 2006). During the first year of elementary school when children are learning to read, their perceptions of their reading abilities, relatively unstable, are suggested to be a consequence of their reading performance (Chapman & Tunmer, 1997; see Appendix A for addition information). However, once children develop more stable perceptions of their reading performance capabilities, by their second and third years of elementary school, children's reading self-concepts are suggested to be considered a cause of their reading performance.

Evidence for this comes from a two-year longitudinal experiment with 112, five-year-old participants conducted by Chapman and Tunmer (1997) to examine the relationships between reading performance and reading self-concept. The study measured pre-reading abilities, later reading performance, and reading self-concept. Reading self-concept was determined using Chapman and Tunmer's Reading Self-Concept Scale (RSCS; 1995), a 30-item instrument individually administered to each child. Self-concept was evaluated based on three subscales: perception of competence at reading tasks, perception of ease or difficulty at reading, and attitudes toward reading.

The results from a path analysis did not demonstrate an association between reading performance and reading self-concept in the first year of schooling, but documented a moderately stable correlation between the two variables by the middle of the second year, and a stronger correspondence by the third year of school. Thus reading

self-concept appears to emerge overtime with the extent of correspondence with reading performance increasing as reading acquisition progresses (Chapman & Tunmer, 1997).

In another study, Chapman et al. (2000) found that children with extreme opinions about their reading skills, whether they thought they were reading very well or very poorly, developed academic and reading self-concepts earlier than those with average reading skills. This outcome was based on a sample of students assessed on academic self-concept, reading self-concept, and reading performance during the end of their first and second years of school and during the middle of their third year of school. By the end of the second year of school, students had developed positive, negative, or typical academic self-concepts, evaluated by the Perception of Ability Scale for Students (PASS), and were placed into three groups based on their academic self-concept.

Reading self-concept was analyzed by the RSCS. Next, reading self-concept and academic self-concept were examined in relation to students' reading performance. The authors observed that extremely negative and positive academic and reading self-concepts both emerged more quickly than they did for the typical groups. Also, reading performance was a stronger predictor of positive and negative group membership than it was for the group of students who had typical academic self-concepts. This suggests that if students who have consistent experiences either with reading success or difficulty, their perception of their academic abilities will become more salient to them at an earlier age, allowing their reading self-concept to develop sooner (Chapman et al., 2000).

### **Reading Achievement and Socio-Economic Status**

Empirical studies confirm that lower SES students entering elementary school generally have lower literacy performance levels, less vocabulary knowledge and lower

levels of phonological awareness (Chall & Jacobs, 2003; Hart & Risley, 1995; Lundberg, Larsman, & Strid, 2012; Snow, Barnes, Chandler, Goodman, & Hemphill, 1991). Further, children from lower SES circumstances often are exposed to fewer opportunities to expand background knowledge (i.e., trips to a zoo or a museum) and often have reduced resources (e.g., fewer current textbooks in the schools (Aikens & Barbarin, 2008; Kozol, 1991; Neuman & Celano, 2001)).

During the years before school, children of low-income families tend to be exposed to fewer books and a less rich linguistic environment (Chall & Jacobs, 2003; Hart & Risley, 1995; Neuman & Celano, 2001; Snow et al., 1991). Empirical evidence has documented that the home literacy environment is associated with children's reading achievement (Katzir, Lesaux, & Kim, 2009; Silva, Verhoeven, & van Leeuwe, 2011; Snow et al., 1991; van Steensel, 2006). Further, Neuman and Celano (2001) examined the impact of community institutions on children's early literacy development for two middle-income and two low-income neighborhoods. They reported a marked disadvantage for children in low-income neighborhoods in terms of the number of resources and the quality of books available (Neuman & Celano, 2001).

Yet, when the low- and middle-income neighborhoods were provided with comparable resources, the parents in the middle-income neighborhood took more advantage of these resources than did the low-income neighborhood (Neuman & Celano, 2006). This may indicate that parents in low-income families put less emphasis on the importance of reading, allocate less time for these types of activities, or may struggle with reading themselves (Neuman & Celano, 2006).

Having few linguistic resources available to a child from a lower SES home, and the common correlate of lower parent education (Neuman & Celano, 2001), can hinder his or her amount of exposure to books and vocabulary development. To support this, research has shown that lower SES children have reduced exposure to vocabulary items and to sophisticated language use (Hart & Risley, 1995).

In turn, low-income children often have lower literacy-related skills when entering preschool and early elementary grades (Snow et al., 1991) and score less well than higher SES students on reading measures (Aikens & Barbarin, 2008; Korat, 2011; Lundberg et al., 2012; Silva et al., 2011; van Steensel, 2006). A study performed by Duncan and Seymour (2000) indicated that within the first few years of elementary school, young students from a lower SES school generally performed one to two years behind the comparison sample of students from a higher SES school, similar to the findings of Chall and Jacobs (2003) that were noted earlier.

Correspondingly, in terms of teacher perspectives of student reading ability, research suggests that students from lower SES backgrounds typically are rated as poorer readers than their peers from higher SES backgrounds (Korat, 2011).

Although the circumstances associated with low income put children at-risk for lower performance when learning to read, with quality instruction learning the foundation skills for beginning reading can be achieved in the early grades. Yet, the deficits in vocabulary knowledge can exert a problem as the number and kinds of words encountered in print expand during the mid-elementary grades. These limits in vocabulary and background knowledge can impede decoding efforts with new words (Mitchell & Brady, 2013) and can hamper comprehension (Hirsch, 2003).



Chall and Jacobs (2003) have documented declines in reading success beginning in the fourth grade as text becomes more complex. Their two-year longitudinal experiment focused on the impact of lower SES on reading performance with students in the second, fourth, and sixth grades. The results demonstrated that the students performed at the same level as the normative sample until they reached the fourth grade when their reading scores began to drop (referred to by these authors as the fourth-grade slump). Because reading performance and reading self-concept are associated, and have consequences for reading motivation (Guthrie & Wigfield, 1997), it is important to better understand how SES circumstances pertain to how students perceive their reading abilities.

### **This Study**

The goal of this study was to examine the relationships between reading performance and reading self-concept across SES groups for samples of fifth-grade students attending schools serving lower and higher SES communities. The two groups were assessed on reading performance, vocabulary, and reading self-concept in order to explore the extent to which these variables predicted reading self-concept for each SES cohort.

As discussed previously, research has been conducted based on the links between reading performance and reading self-concept at elementary age levels. However, although academic self-concept has been studied with respect to differing SES levels, no study has examined relationships between reading self-concept per se, reading performance and SES.

Participants were assessed on five measures. The *Reading Self-Concept Test* (Chapman & Tunmer, 1995) was administered to ascertain students' opinions of their own reading abilities. Three of the subtests of the *Woodcock Johnson Reading Mastery-Revised (WRMT-R; 1998)* were given to evaluate word recognition (*Word Identification*), decoding (*Word Attack*), and reading comprehension (*Passage Comprehension*). Lastly, the *Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4)* (Dunn & Dunn, 2007) was used to measure vocabulary knowledge.

Two main initial hypotheses were tested. First, it was predicted that students within the higher SES group would perform better on measures of reading performance and vocabulary knowledge than would students from the lower SES cohort (Chall & Jacobs, 2003; Hart & Risley, 1995; Lundberg, et al., 2012; Snow, et al., 1991). Second, it was expected that 'matched groups,' or students who performed similarly on reading and vocabulary measures across groups, would differ between SES groups on reading self-concept, with the lower SES students holding higher reading self-concepts than would the higher SES students (Marsh & Parker, 1984). Lastly, regression analyses were included to examine the variables that accounted for the variance on reading self-concept. Reading performance was hypothesized to account for majority of the variance in reading self-concept as indicated by prior research (Chapman and Tunmer, 1995; 1997; Chapman et al., 2000). Nonetheless, it was anticipated that SES would contribute to some of the variance on reading self-concept after controlling for reading performance and vocabulary knowledge.

## CHAPTER 2

### METHODOLOGY

#### **Participants**

A power analysis was conducted in G\*power 3.15 to determine an appropriate sample size for a medium effect size. The power analysis revealed that a sample size of 92 participants would be sufficient for a medium effect size of  $f^2 = .15$ , with a power of 0.8 and  $\alpha = .05$ .

A total of 102 fifth-grade students attending three schools, two elementary schools and one middle school, participated in the study (see Table 1 for demographic information regarding the schools and participants for the study). The three schools, each from a different district in Rhode Island served families from a range of socioeconomic levels.

The mean age of students was 11 years, 1 month with a range from 10 years, 1 month to 12 years, 4 months. Fifty-three participants were female and 49 were male. Sixty-eight participants self-identified as being White and 34 identified with a minority race or ethnic group. See Table 1 for demographic information about the students from each of the schools. All students in the sample were native English speakers. Parental consent and child assent were obtained for each child before administering the study measures.

Fifty-two students participated from the higher SES school. The mean age of students was 11 years, 1 month with a range from 10 years, 1 month to 12 years, 0 month.

This sample included 26 females and 26 males. Forty-six of the students identified as being White; six identified with a minority race or ethnicity.

Fifty students participated from the two schools identified as lower SES. Their mean age was 11 years, 1 month with a range from 10 years, 1 month to 12 years, 4 months. Twenty-seven participants were female and 23 were male. Twenty-two identified as White and 28 stated they were of a minority race or ethnicity.

Table 1.

*Demographic Information Regarding Schools and Participants for the Study*

Schools	SES		Gender		Race/Ethnicity				Avg. Age (yr.mo.)
	FRL	SES	M	F	White	Black	Hispanic	Other	
School A (n= 52)	15%	Higher	26	26	46	1	0	5	11.1
School B (n= 31)	76%	Lower	12	19	15	3	6	7	11.2
School C (n= 19)	86%	Lower	11	8	7	1	4	7	11.0
School B+C (n= 50)	80%	Lower	23	27	22	4	10	14	11.1
Total (N= 102)	-----	-----	49	53	68	5	10	19	11.1

**Socio-Economic Status (SES)**

School SES was determined based on the Rhode Island Department of Education Free and Reduced Lunch (FRL) percentages for public schools. For the state schools as a whole, the FRL percentage is approximately 46% (Infoworks, Rhode Island Department of Education, 2013). The schools that were chosen to participate in this study are those

with relatively extreme FRL percentages (either low or high percentages) to clearly separate higher SES from lower SES schools.

One school (School A) is in a higher SES district in which approximately 15% of the students are eligible for government-subsidized free or reduced-price lunches (FRL) (Infoworks, Rhode Island Department of Education, 2013). The other two schools are in lower SES districts: one, School B, in which approximately 76% of students are eligible for FRL, the other, School C, in which approximately 86% are eligible. Specific information about FRL participation for the students taking part in the study was shared for fifth-grade pupils in two of the schools.

In the higher SES school, only students who did not receive FRL were included, and only those who received FRL were included in the study, and only those who were receiving FRL were included from the one lower SES school that provided the FRL information. For the second lower SES school that did not provide this information, all students who participated were included in the data analysis and with a school FRL percentage of 86%, it is likely that those nineteen students receive this benefit. Consequently, the majority of the students in the study were accurately classified in terms of their FRL status, although a small number from one of the lower SES schools may not have been. Because no further information about parents' SES was gathered and in light of the fact that the resources in each of the three schools were the same for all pupils attending those schools, SES was defined as a school variable in this study.

## **Measures**

Each student was given a standardized measure of receptive vocabulary knowledge, three standardized reading measures, and a questionnaire about reading self-

concept. Raw and grade-based standardized scores were calculated for each of the vocabulary and reading achievement standardized measures. Raw scores were calculated for the reading self-concept measure.

**Vocabulary** knowledge was assessed with the *Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4)* (Dunn & Dunn, 2007). The *PPVT-4* is an untimed measure of receptive vocabulary. To administer this instrument, the examiner presents a series of pictures to the student being evaluated. There are four pictures to a page, and each is numbered. The examiner states a word and asks the individual to point to or say the number of the picture with which the word corresponds. Testing terminates when the participant makes eight or more errors in a set. Raw scores are the number of pictures correctly identified as corresponding to the provided words.

**Reading Performance** was measured using the Word Identification, Word Attack, and Passage Comprehension subscales of the *Woodcock Reading Mastery Tests, Revised (WRMT-R)*; Woodcock, 1998). The *WRMT-R* is a comprehensive individual assessment of reading achievement. Every item within each subscale was scored as either a 1 (correct response) or a 0 (incorrect response). The raw scores consist of the number of correct responses.

The Word Identification (Word ID) subscale is a measure of word recognition. This subtest requires the participants to read words that become increasingly complex and less frequent in English. Testing is continued until six consecutive words were not read correctly (Woodcock, 1998).

The Word Attack subtest is an assessment of decoding ability. The Word Attack task consists of 45 novel pseudowords arranged in order of difficulty. Each participant is

asked to read the words aloud until the participant fails to respond to or correctly pronounce six consecutive items (Woodcock, 1998).

The Passage Comprehension (Passage Comp.) subscale from the WRMT-R was used to measure reading comprehension. This task requires children to read short texts ranging from single sentences to complex paragraphs and respond to each by filling in a blank embedded in the text. Discontinuation occurs after the participant fails to correctly respond to six consecutive items (Woodcock, 1998).

**Reading Self-Concept** was evaluated with the *Reading Self-Concept Scale (RSCS)*, created by Chapman and Tunmer (1995; See Appendix B to view the original Reading Self-Concept Scale and Appendix C to view the modified scale used for this study).

The RSCS includes 30 questions based on reading self-concept in three domains: perceptions of competence in reading; perceptions of difficulty with reading; and attitudes towards reading. Minor changes in wording were made to make the questions culturally appropriate (the original was created for use in New Zealand and some wording would be odd for American students). The questions are answered using a 5-step response scale (“Yes, Always” to “No, Never”).

Each student was tested individually. The participant was given instructions and ten practice trials prior to the administration of the actual test items. A tester then read the questions aloud and the student marked his/her response for each item. Responses for two of the domains, perceptions of competence in reading and attitudes towards reading, were scored from 1, low reading self-concept, to 5, high reading self-concept, whereas the third domain, perceptions of difficulty with reading, was scored in the reverse order to

correspond with positive and negative perceptions. The full score for each student is the mean score of the 30-item responses. The full-scale scores were used in all analyses. The internal reliability of the scale, measured by Cronbach's alpha, yielded a positive coefficient (above .8) at each age level of the participants (Chapman & Tunmer, 1995).

### **Procedure**

To expedite data collection, two research assistants were recruited to aid in the assessment process. Both assistants were trained on administration procedures for the five study measures. All fifth-grade students attending general education classes were asked to participate in the study. Those who had signed consent from their parent or guardian and provided assent to participate in the study were assessed on the five measures (see Appendix D to view the Consent Form in English, Appendix E to view the Consent Form in Spanish, and Appendix F to view the child Assent Form). Testing was completed within a single session for each participant, requiring 30-40 minutes per student. Students first were assessed on the three reading measures (Word ID, Word Attack, and Passage Comp.) and the vocabulary measure (PPVT-4), and then were administered the reading self-concept questionnaire (RSCS).



## CHAPTER 3

### RESULTS

Data were analyzed in multiple ways. First, to investigate SES group differences on reading achievement, vocabulary abilities and reading perceptions while controlling for race, the results for the White students from the higher and lower SES schools were analyzed. The data for the White participants from the higher (n=46) and lower SES schools (n=22) were analyzed on the five dependent variables (Vocabulary (PPVT-4), Word ID, Word Attack, Passage Comprehension, and Reading Self-Concept) to compare group performances and to examine predictors of reading self-concept. Because the groups differed widely in number of participants, a second analysis selected a set of 22 higher SES students who were comparable to the 22 lower SES students in terms of their vocabulary and word identification achievement and analyzed reading self-concepts for the two groups. Next, the results for the full sample of students (N=102) were analyzed, including the minority students from the higher SES group (n=6) and the lower SES group (n=28) to increase sample sizes and to explore differences on the dependent variables based on both SES and race/ethnicity. Post hoc analyses examined vocabulary as an alternative metric for SES. See Appendix G for results for the SES analyses based on vocabulary score classification of students.

#### **Examination of Group Differences for White Students from Higher and Lower SES Schools (N=68)**

Descriptive analyses were conducted to explore the mean performances of the higher (n=46) and lower (n=22) SES white students on the five dependent measures (see Table 2 for a summary of the descriptive results). Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted.

Table 2.  
*Summary of Descriptive Results for White Students from the Higher and Lower SES Groups on Each Dependent Measure (N=68)*

Variable	<u>Higher SES (n= 46)</u>		<u>Lower SES (n= 22)</u>		<i>M<sub>difference</sub></i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
PPVT-4	109.91	13.83	96.82	11.02	13.09
Word ID	111.30	12.71	101.00	9.72	10.30
Word Attack	112.54	12.78	108.00	11.31	4.54
Passage Comp.	104.26	12.09	96.82	7.89	7.44
RSCS	3.84	0.54	3.84	0.67	0.00

Correlations were computed to determine relationships between reading skills (Word ID, Word Attack, and Passage Comp.), vocabulary knowledge (PPVT-4), and reading self-concept (RSCS) for White students within each SES group. (See Table 3 for correlations computed for the five dependent measures for White students in the higher SES group (n=46) and Table 4 for those correlations for White students from the lower SES group (n=22)).

The correlations from the higher SES (n=46) cohort of White students indicated that the reading measures, Word ID, Word Attack, and Passage Comprehension

contained strong, positive, significant correlations with each other, suggesting shared variance among the reading tasks. There were strong, positive, significant correlations with the reading measures and vocabulary knowledge, implying possible shared variance of reading abilities on vocabulary knowledge. Reading self-concept correlated significantly with the three reading variables, Word ID ( $r = .46$ ), Word Attack ( $r = .45$ ), and Passage Comprehension ( $r = .40$ ), providing support of a moderate, positive relationship between reading performance and reading self-concept. However, reading self-concept did not correlate significantly with the vocabulary task.

Table 3.  
*Pearson Correlation Coefficients for the Dependent Measures for White Students from the Higher SES Group (n=46)*

Measures	1	2	3	4	5
1. PPVT-4					
2. Word ID	0.66**				
3. Word Attack	0.58**	0.87**			
4. Passage Comp.	0.73**	0.54**	0.49**		
5. RSCS	0.45	0.46**	0.45**	0.40**	

\* $p < .05$ . \*\* $p < .01$ .

The correlations between the reading measures and vocabulary knowledge from the lower SES ( $n=22$ ) group of White students appeared less strong than those from the higher SES cohort. The reading measures contained moderate to strong positive significant correlations with each other, again suggesting variance that is shared within the reading tasks. Vocabulary knowledge correlated at a moderate and positive level with Word ID ( $r = .39$ ) and strongly and positive with Passage Comprehension ( $r = .62$ ).

Reading self-concept was found to have a strong and positive relationship with Word ID ( $r = .62$ ) and Passage Comprehension ( $r = .65$ ).

Table 4.  
*Pearson Correlation Coefficients for the Dependent Measures for White Students from the Lower SES Group (n=22)*

Measures	1	2	3	4	5
1. PPVT-4					
2. Word ID	0.39*				
3. Word Attack	0.19	0.66**			
4. Passage Comp.	0.62**	0.63**	0.42*		
5. RSCS	0.38	0.62*	0.33	0.65**	

\* $p < .05$ . \*\* $p < .01$ .

Table 5.  
*Summary of ANOVA Results with SES as the Independent Variable for Each Dependent Variable for White Students (N=68).*

Variable	<u>Higher SES</u> (n=46)		<u>Lower SES</u> (n=22)		<u>ANOVA Results</u>		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F (1, 66)</i>	<i>p</i>	$\eta^2$
PPVT-4	109.91	13.83	96.82	11.02	15.11	<.01**	.19
Word ID	111.30	12.71	101.00	9.72	11.27	<.01**	.15
Word Attack	112.54	12.78	108.00	11.31	2.02	.16	.03
Passage Comp.	104.26	12.09	96.82	7.89	6.90	.01**	.10
RSCS	3.84	0.54	3.84	0.67	0.00	.99	.00

\* $p < .05$ . \*\* $p < .01$ .

A one-way between-groups multivariate analysis of variance (MANOVA) was performed to investigate SES group differences in reading performance, vocabulary ability, and reading self-concept. The independent variable was SES. There was a statistically significant difference between higher SES and lower SES groups on the combined dependent variables,  $F(5, 62) = 5.13, p < .01$ ; Wilks' Lambda = .29; eta-squared = .29. When the results for the dependent variables were considered separately, the group differences that reached statistical significance were PPVT-4,  $F(1, 66) = 15.11, p < .01$ , eta-squared = .19; Word ID,  $F(1, 66) = 11.27, p < .01$ , eta-squared = .15; and Passage Comprehension,  $F(1, 66) = 6.90, p = .01$ , eta-squared = .10.

Follow-up one-way between-groups analyses of variances (ANOVAs) were conducted to further investigate the mean differences between SES groups on each dependent variable (see Table 5 for a summary of the ANOVA results). Similar to the MANOVA results, the following variables differed significantly between SES groups: PPVT-4,  $F(1, 66) = 15.11, p < .01$ , eta-squared = .19; Word ID,  $F(1, 66) = 11.27, p < .01$ , eta-squared = .15; and Passage Comprehension,  $F(1, 66) = 6.90, p = .01$ , eta-squared = .10. Thus, these analyses indicated that the measures of vocabulary knowledge, Word ID, and Passage Comprehension significantly differed based on SES, with higher SES participants performing better on those tasks than lower SES students.

Hierarchical multiple regression analyses were used to assess the contributions of reading ability (i.e., Word ID, Word Attack, and Passage Comprehension scores), vocabulary knowledge (i.e., PPVT-4 scores), and SES to reading self-concept (see Table 6 for hierarchical regression results). In the first model, the three reading measures were entered in the first block (Word ID, Word Attack, Passage Comprehension), vocabulary

knowledge (PPVT-4) in the second block, and SES in the third. Reading variables were entered in Step 1 and exerted a large effect, explaining 25% of the variance in reading self-concept. In Step 2, the vocabulary variable was entered and did not account for any additional portion of the variance. In Step 3, after both reading performance and vocabulary knowledge had been controlled for, SES accounted for an additional 4% of the variance,  $R$  squared change = .04,  $F$  change (1, 62) = 3.81,  $p$  = .06. SES held a negative relationship ( $\beta$  = -.24) with reading self-concept when all else was controlled (at .06 significance). The overall model explained 29% of variance on reading self-concept,  $F$  (5, 62) = 5.11,  $p$  < .01.

Table 6.

*Summary of Hierarchical Regression Results for Predictors of Reading Self-Concept for White Students from the Higher and Lower SES Groups (N= 68)*

<i>Step</i>	<i>Variable Added</i>	<i>R change</i>	<i>p</i>	<i>Final <math>\beta</math></i>
1	RP*	.25	<.01	
2	PPVT-4	.00	.96	.07
3	SES	.04	.06	-.24
1	SES	.00	.99	-.24
2	PPVT-4	.18	<.01	.07
3	RP*	.12	.02	

*\*RP: Reading performance measures; Word ID, Word Attack, and Passage Comprehension*

When the entry of these variables was reversed, the model again explained 29% of the variance on reading self-concept. In Step 1, SES was entered and did not account for any of the variance when reading performance and vocabulary had not been controlled. In the second step, vocabulary was entered and explained 18% of the variance on reading self-concept,  $R$  squared change = .18,  $F$  change (1, 65) = 13.87,  $p$  < .01. Lastly, when both SES and vocabulary were controlled, reading performance accounted

for an additional 12% of the variance,  $R^2$  change = .12,  $F$  change (3, 62) = 3.39,  $p$  = .02.

The results from the first model indicate that reading performance makes a significant contribution to reading self-concept and that SES explains an additional portion of the variance when both reading performance and vocabulary knowledge are controlled. The results from the second model reveal that vocabulary knowledge and reading performance significantly contribute to reading self-concept, while showing that SES does not account for any of the explained variance on reading self-concept when reading and vocabulary abilities are not controlled. Both models' results indicate that vocabulary shares variance with reading ability.

Table 7.  
*Summary of Descriptive Results for White Higher and Lower SES Groups Matched on Vocabulary and Reading Measures (N=44)*

Variable	<u>Higher SES (n=22)</u>		<u>Lower SES (n=22)</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
PPVT-4	100.18	8.45	96.82	11.02
Word ID	102.86	9.96	101.00	9.72
RSCS	3.65	0.57	3.84	0.67

Next, in order to limit potential effects of different reading achievement and vocabulary performance levels for the two SES groups, an independent-samples t-test was conducted with the lower SES students and with a subset of the students from the higher SES group who scored similarly on both Word ID and PPVT-4 measures as did the subjects in the lower SES group (see Table 7). Each group consisted of an equal sample size (n=22) and similar male to female ratios (higher SES: 16 females, 6 males; lower SES: 11 females, 11 males) and mean ages (higher SES:  $M$ = 11.09,  $SD$ = .53; lower

SES:  $M= 11.14$ ,  $SD= .68$ ) There was no significant difference in reading self-concept scores for these matched Higher SES students ( $M= 3.65$ ,  $SD= .57$ ) and the lower SES students ( $M= 3.84$ ,  $SD= .67$ );  $t(42)= 1.013$ , one-tailed, has a  $CV= 1.70$  at an alpha of  $.05$ ,  $p > .05$ . The reading self-concept scores ranged from 2.2 to 4.8 in both groups. Hence, these results indicate no significant difference on reading self-concept across SES groups even when reading performance and vocabulary knowledge is similar.

### **Examination of Group Differences for White and Minority Students from Higher and Lower SES Schools (N=102)**

Descriptive analyses were conducted to examine the mean differences between higher ( $n=52$ ) and lower ( $n=50$ ) SES white and minority students on the five dependent measures (see Table 8 for a summary of the descriptive results of the groups separated by SES; see Table 9 for a summary of the descriptive results of the SES groups separated by race/ethnicity). Participants were divided into two groups according to whether they self-identified as being White or a minority race/ethnicity other than White within their SES group. Preliminary assumption testing again was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity for this larger sample. No serious violations were noted.

Correlation analyses were run to measure the relationships between the five dependent variables for the higher SES ( $n=52$ ) and lower SES ( $n=50$ ) cohorts of both White and minority students (see Table 10 and Table 11 for the computed correlations for the higher and lower SES groups, respectively).



Table 8.  
*Summary of Descriptive Results for the Full Sample of Higher and Lower SES Participants on Each Dependent Measure (N= 102)*

Variable	<u>Higher SES (n= 52)</u>		<u>Lower SES (n= 50)</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	11.13	0.52	11.12	0.64
PPVT-4	108.94	14.16	93.62	11.51
Word ID	110.94	12.58	100.12	11.38
Word Attack	112.04	12.99	106.14	11.19
Passage Comp.	103.69	11.59	94.62	8.82
RSCS	3.82	0.53	3.73	0.66

Table 9.  
*Summary of Descriptive Results for White and Minority Students from Higher and Lower SES Groups on the Dependent Measures (N=102)*

Variable	<u>Higher SES (n=52)</u>				<u>Lower SES (n= 50)</u>			
	<u>White (n=46)</u>		<u>Minority (n=6)</u>		<u>White (n=22)</u>		<u>Minority (n=28)</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	11.13	0.55	11.10	0.25	11.14	0.68	11.11	0.61
Vocabulary	109.91	13.83	101.50	15.85	96.82	11.02	93.62	11.51
Word ID	111.30	12.71	108.17	12.25	101.00	9.72	99.43	12.67
Word Attack	112.54	12.78	108.17	15.21	108.00	11.31	104.68	11.08
Passage Comp.	104.26	12.09	99.33	5.32	96.82	7.89	92.89	9.25
RSCS	3.84	0.54	3.60	0.45	3.84	0.67	3.64	0.64

Among the higher and lower SES cohorts, the reading measures significantly correlated positively at moderate to strong levels. Vocabulary knowledge (PPVT-4) had a statistically strong relationship with Word ID ( $r = .67$ ), Word Attack ( $r = .61$ ), and Passage Comprehension ( $r = .70$ ) within the higher SES group, and moderate positive relationships with Word ID ( $r = .44$ ) and Word Attack ( $r = .42$ ), and a strong positive relationship with Passage Comprehension ( $r = .70$ ) among the lower SES cohort. This evidence indicates shared variance within the reading measures and between the reading and vocabulary tasks.

Table 10.  
*Pearson Correlation Coefficients for the Dependent Measures for White and Minority Students from the Higher SES Group (n=52)*

Measures	1	2	3	4	5
1. PPVT-4					
2. Word ID	0.67**				
3. Word Attack	0.61**	0.86**			
4. Passage Comp.	0.70**	0.53**	0.48**		
5. RSCS	0.43**	0.40**	0.41**	0.39**	

\*  $p < .05$ . \*\*  $p < .01$ .

Reading self-concept contained significantly moderate and positive relationships with the reading measures and vocabulary task in both the higher and lower SES group. Within the higher SES group, reading self-concept correlated moderately with PPVT-4 ( $r = .43$ ), Word ID ( $r = .40$ ), Word Attack ( $r = .41$ ), and Passage Comprehension ( $r = .39$ ). Similarly, among the lower SES cohort reading self-concept had a moderate relationship

with PPVT-4 ( $r = .45$ ), Word ID ( $r = .40$ ), Word Attack ( $r = .43$ ), and Passage Comprehension ( $r = .53$ ).

Table 11.  
*Pearson Correlation Coefficients for the Dependent Measures for White and Minority Students from the Lower SES Group (n=50)*

Measures	1	2	3	4	5
1. PPVT-4					
2. Word ID	0.44**				
3. Word Attack	0.42**	0.65**			
4. Passage Comp.	0.70**	0.52**	0.53**		
5. RSCS	0.45**	0.40**	0.43**	0.53**	

\* $p < .05$ . \*\* $p < .01$ .

A two-way between-groups MANOVA was conducted to explore the impact of SES and race/ethnicity on reading performance, vocabulary knowledge, and reading self-concept. On the combined dependent variables, the interaction effect between SES and race/ethnicity was not statistically significant,  $F(5, 94) = .04, p = 1.0$ ; Wilks' Lambda = .002; multivariate eta-squared = .002. However, there was a statistically significant main effect for SES on the combined dependent variables,  $F(5, 94) = 4.15, p < .01$ ; Wilks' Lambda = .82; multivariate eta-squared = .18.

Dependent variables were measured separately to determine statistical significance between groups of SES. Similar to the results produced when the White students were examined alone, the same variables appeared to significantly differ across SES groups when minority participants were included within each SES group. These results were depicted: PPVT-4,  $F(1, 98) = 12.58, p < .01$ , eta-squared = .11; Word ID,  $F$

(1, 98) = 9.19,  $p < .01$ , eta-squared = .09; and Passage Comprehension,  $F(1, 98) = 6.78$ ,  $p = .01$ , eta-squared = .06.

Follow-up individual two-way between-groups analyses of variance (ANOVAs) were performed to further examine the group differences of SES and race/ethnicity on reading performance, vocabulary knowledge, and reading self-concept (see Table 12). The interaction effect between SES and race/ethnicity was not statistically significant for any of the five dependent variables. There were statistically significant main effects for SES on measures of vocabulary knowledge,  $F(1, 98) = 12.58$ ,  $p < .01$ , Word ID,  $F(1, 98) = 9.19$ ,  $p < .01$ , and Passage Comprehension,  $F(1, 98) = 6.78$ ,  $p = .01$ . Also, there was a statistically significant main effect for race/ethnicity on vocabulary knowledge,  $F(1, 98) = 4.55$ ,  $p = .04$ .

Lastly, hierarchical multiple regression analyses were used to examine the predictors of reading self-concept (see Table 13) among white and minority students for the full sample ( $N=102$ ). The first model consisted of three steps. First, the three reading measures were entered together (Word ID, Word Attack, and Passage Comprehension). Second, the vocabulary measure, and third was SES. The reading variables produced a large effect, explaining 24% of the variance in reading self-concept. The vocabulary variable did not account for any additional portion of the variance over and above reading performance. Lastly, SES was entered and accounted for an additional 2% of the variance,  $R^2$  change = .02,  $F$  change (1, 96) = 3.08,  $p = .08$ . Although SES was not significant at a traditional alpha level of .05, it should be noted that its relationship with reading self-concept was negative ( $\beta = -.18$ ). The overall model explained 26% of variance on reading self-concept,  $F(5, 96) = 6.81$ ,  $p < .01$ .

For reverse entry of the variables, the model accounted for 26% of the variance on reading self-concept. In the first step, SES was entered and did not contribute to any of the variance when it was measured first. Next, the vocabulary variables was added in addition to SES and explained 19% of the variance on reading self-concept, R squared change = .19,  $F$  change (1, 99) = 22.58,  $p < .01$ . Finally, when both SES and vocabulary knowledge were already entered, reading performance accounted for an additional 7% of the variance, R squared change = .07,  $F$  change (3, 96) = 3.11,  $p = .03$ .

Table 12.

*Summary of 2X2 ANOVA Between-Subjects Effects Results of SES and Race/Ethnicity for the Dependent Measures for All Participants (N=102)*

Variable	<u>Interaction</u> <u>SES*Race/Ethnicity</u>			<u>SES</u>			<u>Race/Ethnicity</u>		
	<i>F</i> (1,98)	<i>p</i>	$\eta^2$	<i>F</i> (1,98)	<i>p</i>	$\eta^2$	<i>F</i> (1,98)	<i>p</i>	$\eta^2$
PPVT-4	.17	.68	<.01	12.58	<.01**	.11	4.55	.04*	.04
Word ID	.06	.80	<.01	9.19	<.01**	.09	0.56	.46	<.01
Word Attack	.03	.87	<.01	1.62	.21	.02	1.49	.23	.02
Passage Comp.	.04	.85	<.01	6.78	.01**	.06	2.76	.10	.03
RSCS	.02	.88	<.01	.02	.90	<.01	2.03	.16	.02

\*  $p < 0.05$ . \*\*  $p < 0.01$ .

The results from the first model show that reading performance significantly contribution to reading self-concept. Also, this regression analysis conveys that SES explains an additional 2% of the variance when both reading performance and vocabulary

knowledge are controlled. When the variables are entered in the reverse order, the results demonstrate that both that vocabulary knowledge and reading performance measures significantly contribute to reading self-concept the most, while SES does not account for any of the explained variance on reading self-concept when it was entered first. The results from both regression analyses find that vocabulary shares variance with reading ability.

Table 13.  
*Summary of Hierarchical Regression Results for Predictors of Reading Self-Concept for All Students from the Higher and Lower SES Groups (N=102)*

<i>Step</i>	<i>Variable Added</i>	<i>R change</i>	<i>p</i>	<i>Final <math>\beta</math></i>
1	RP*	.24	<.01	
2	PPVT-4	.00	.52	.17
3	SES	.02	.08	-.18
1	SES	.00	.47	-.18
2	PPVT-4	.19	<.01	.17
3	RP*	.07	.03	

*\*RP: Reading performance measures; Word ID, Word Attack, and Passage Comprehension*

## CHAPTER 4

### DISCUSSION

The purpose of the study was to investigate SES differences on reading performance and reading self-concept between samples of fifth-grade students from higher and lower SES school districts. Although differences in reading achievement for SES have been documented (Aikens & Barbarin, 2008; Chall & Jacobs, 2003; Chall et al., 1991; Hart & Risley, 1995; Kozol, 1991; Lundberg, et al., 2012; Neuman & Celano, 2001; Snow, et al., 1991), research had not yet studied the effects of SES specifically on reading self-concept. Accordingly, the primary objective was to examine whether differences in reading self-concept correspond with reading performance across SES groups or whether self-evaluations of reading acumen are gauged in relation to the school community for pupils. Because it was predicted that the higher SES cohort would have superior reading and vocabulary scores overall, in addition to comparing the SES samples, a subset of 'matched' SES groups was studied in order to test whether the students in the higher SES subset would rate their reading self-concepts more negatively, corresponding with the March and Parker (1984) finding for academic self-concept. Finally, regression analyses were conducted to ascertain predictors of reading self-concept.

To control for racial and ethnic variability, first White participants in each SES group were compared. Subsequently, the whole sample of White and minority participants was included in analyses, to expand the sample size and to analyze group differences corresponding with race/ethnicity.

## Summary of Results

As predicted, reading performance and vocabulary knowledge differed between the SES groups. The sample of White participants (N=68) of higher and lower SES cohorts had statistically significant group differences on measures of PPVT-4, Word ID, and Passage Comprehension, with higher SES participants performing better on these tasks than lower SES students. The results of this study conform with the view from Neuman and Celano's (2001) research that lower-income children are exposed to fewer academic resources, contributing to why students from the lower SES cohort of this study performed less well on the Word ID and Passage Comprehension measures than students from the higher SES group. In addition, vocabulary knowledge differed based on SES corresponding with the research by Hart and Risley (1995) that indicated a multimillion word gap in exposure for pre-school children from higher and lower SES backgrounds. Word Attack, on the other hand, did not differ between SES groups, probably because this component of reading acquisition is the least dependent on family background factors (Chall & Jacobs, 2003).

Results from the combined sample of both White and minority participants (N=102) in the higher and lower SES groups yielded similar findings. The PPVT-4, Word ID, and Passage Comprehension scores again differed significantly by SES group whereas Word Attack did not differ based on SES. In addition, the PPVT-4 scores significantly differed based on race/ethnicity with White students having stronger vocabulary knowledge than students of a minority race or ethnicity in both the higher and lower SES groups. One explanation to this finding is that majority of the White participants were from the higher SES cohort and all but six of the minority racial and



ethnic students were a part of the lower SES group. Another possibility includes potential language barriers, such as speaking a different language in the home, that may well have been the case for a portion of the students in the study who were classified as a member of a minority race or ethnicity (August & Shanahan, 2006; Verhallen & Schoonen, 1993).

Next, matched groups were compared in order to determine whether reading self-concept would differ based on SES. The matched groups were created based on similar word reading and vocabulary scores. Yet, despite equal sample sizes and similar reading and vocabulary scores for the two groups, reading self-concept scores still did not differ based on SES (higher SES:  $M= 3.65$ ,  $SD= .57$ ; lower SES:  $M= 3.84$ ,  $SD= .67$ ), unlike the prediction that was made.

An explanation of this is that a student's perception of his or her reading ability is formulated on the basis of his or her cohort's reading performance within the school. Students from both higher and lower SES schools could be expected to develop a similar distribution of reading self-concepts because they are comparing their reading performance to their peers and not with students from different SES schools. Therefore, reading self-concept appears to be affected by peer group comparison and not necessarily SES. These findings differ from Marsh and Parker's (1984) results in that the higher SES cohort of this study did not report lower self-concept ratings than did those from the lower SES group. However, Marsh and Parker (1984) did not provide the descriptive data with the means and standard deviations of their SES groups on the academic performance variables. Consequently, it is difficult to evaluate the comparability of the present sample to that of Marsh and Parker's (1984). Nonetheless, the results are similar in that they

indicate that self-concept is a comparison variable related to performance by others in the student's school or community.

Finally, regression analyses examining prediction of reading self-concept for the White participants and for the full sample of both White and minority participants from the higher and lower SES groups were conducted. For each group, two hierarchical regression analyses were run. In the first regression analysis, reading performance was entered first, followed by vocabulary, and lastly by SES. For the White participants, reading performance accounted for 25% of the variance and SES added an additional 4% (at .06 significance) in a negative direction; vocabulary did not account for any variance beyond that attributed to reading achievement. Similar results were found for the full sample: reading performance contributed 24% of the variance on reading self-concept, SES accounted for an additional 2% at a significance of .08, and vocabulary did not contribute any variance beyond reading performance.

In a second set of hierarchical regression analyses, the order of entry of variables was reversed. For the White participants, SES, entered first, did not account for any of the variance, suggesting that the overlap in reading performance across the higher and lower SES groups was considerable. However, in this analysis, vocabulary performance accounted for 18% of the variance and reading performance added another 12%. Similarly for the full sample, SES did not account for variance on reading self-concept, vocabulary contributed 19%, and reading performance added an additional 7% beyond vocabulary. The results of these analyses point to shared variance between vocabulary knowledge and reading achievement, as others have found (Cunningham & Stanovich, 1997; Kamil, 2004; NICHD, 2000; Senechal & LeFevre, 2000; Tannenbaum, Torgesen

& Wagner, 2006; Verhoeven, van Leeuwe & Vermeer, 2012). SES was found to be a modest contributor to reading self-concept, at untraditional alpha levels ( $>.05$ ), and only when referenced to the reading and vocabulary performance of the students. Also, SES had a negative relationship with reading self-concept. In sum, this result is similar to what Marsh and Parker (1984) found in that higher SES contributed to somewhat lower academic self-concepts and lower SES lead to higher academic self-concepts.

### **Implications of Results**

The implication of this study is that reading self-concept develops in terms of a student's reading performance as compared to his or her school peers. This comparison appears to influence how a student feels about his or her reading ability and, in turn, may hinder or help the student's reading performance. As Chapman and Tunmer (1995; 1997) discussed, once reading self-concept is stable, roughly by the second grade, reading self-concept is an influential factor in the amount of practice and the level of enjoyment a student has with reading tasks.

Students who perceive having reading difficulties have been reported to be more likely to feel inferior, lonely, unpopular, and angry (Morgan et al., 2012). Such negative emotions may directly affect poor readers' academic achievement, not just their performance in literacy, and contribute to higher rates of school dropout for those students (Morgan et al., 2012). By measuring reading self-concept, as well as reading performance and vocabulary knowledge, school personnel could gain understanding of how students' academic comparisons effect reading performance, as well as academic achievement in general.

Because positive reading self-concepts increase the likelihood that a student will practice reading and enjoy this process (Chapman & Tunmer 1997; Chapman et al., 2000; Stanovich, 1986), it is interesting to discover that the students in both of the SES cohorts from this study had similar opinions about their reading abilities, despite differences in overall reading levels. In light of the evidence that reading self-concept involves comparing a student's performance to his or her peers, it is important to be aware of how these comparisons potentially influence the way an individual perceives his or her own reading ability.

This perception developed from peer comparisons may affect the student's reading experience in either positively or negatively. Based on the results from this study, it appears that if a student holds a positive perception of his reading ability, it is in part because that student has compared his ability to his peers' and feels relatively confident that he is a good reader in relation to his cohort. The opposite, of course, could occur if the student compared his performance to his peers and concluded that he was not up to par with his classmates' achievement level. Therefore, these findings suggest that peer comparisons within individual schools are noteworthy predictors of how students feel about their reading success, at least at the fifth-grade level.

For students in a lower SES setting at which reading achievement is lagging, holding a positive academic self-concept may provide a protective factor. However, as those students approach higher grades and reading demands increase in abstractness, vocabulary, and complexity, their reading self-concepts may decline. If so, lower SES students in later grades may be at greater risk for dropping out of school and having

negative feelings about themselves (Chapman, Laird, Ifill, & Kewal Ramani, 2011; Morgan et al., 2012).

### **Post Hoc Analyses with SES Based on Vocabulary Knowledge**

As discussed earlier, the SES variable for the primary analyses was based on school SES. The schools chosen to participate in this study included one higher SES schools with a school-wise FRL of fifteen percent that is much lower than Rhode Island's statewide FRL of 46% (Rhode Island Department of Education Infoworks site, 2013). The two lower SES schools had school-wide FRL levels of 76% and 86%; these percentages are much higher than the statewide FRL percentage.

Participants included in the data analyses from the higher SES school were those who did not receive FRL. Students included in the data analyses from one of the lower SES schools consisted of students who did receive FRL. For the second lower SES school, the FRL information was not provided. Therefore, all nineteen students who participated from this school were included in the data analyses to represent the lower SES group given that was likely to be the case.

Because SES was identified primarily as a school variable, variability within the groups in terms of family financial resources and parents' educational levels were not available. In turn, variability between the SES groups may have been linked with school differences, such as the amount of resources available, and not individual SES levels. An alternative approach for defining SES was conducted in an effort to obtain individual-based data rather than using a school-based classification. Because SES is recognized as being associated with children's extent of vocabulary knowledge, the data was reanalyzed grouping participants based on performance on the PPVT-4 measure. Students who

scored a standard score of 96 or above on the vocabulary task were placed in the higher SES group, whereas those who scored a standard score of 95 or below were assigned to the lower SES group.

The post hoc analyses indicated statistically significant group differences between the higher SES (higher vocabulary group) and lower SES (lower performing vocabulary group) on dependent variables of reading performance and reading self-concept, a consequence of the grouping procedures. The higher SES (vocabulary-based) group performed better on the three reading measures and rated their reading self-concept scores higher than did those from the lower SES (vocabulary-based) group.

Hierarchical regressions showed that reading performance contributed the most variance to reading self-concept, explaining 24% of the variance. SES based on vocabulary did not account for any of the variance on reading self-concept when reading performance had already been entered, indicating shared variance with reading performance. However, when the vocabulary-based SES variable was entered first in the reverse order, SES accounted for 7% of the variance on reading self-concept and reading performance contributed an additional 17% over and above vocabulary-based SES.

Although these findings differ somewhat from those described in the primary analyses, it is inappropriate to conclude that vocabulary knowledge should be used to determine SES status for this study. When the students were classified into higher SES and lower SES groups based on their vocabulary scores, a number of students from the originally classified higher and lower SES schools were switched into the opposite SES category. Specifically, five students from the higher SES school group were switched into the lower SES vocabulary group and 22 of the lower SES school group participants

switched into the higher SES vocabulary group. Accordingly, this casts doubt on the post hoc results being representative of SES. Thus, this effort to find a student-based index of SES did not pan out and the post hoc analyses appear largely to reflect the correspondences between vocabulary knowledge, reading levels, and reading self-concept separate from SES.

### **Limitations and Future Directions**

Before closing, it is necessary to acknowledge the limitations in the current study. First, this study compared two different groups at single time points. Consequently, confounding factors may have affected the relationship between the different SES groups, such as the possibility of bias associated with one group or preconceived judgments, but did not interfere with the individual groups themselves. The second limitation is having a small, and potentially biased, sample of participants because of the number of consent forms that were returned (approximately 50% for both groups). It may be that parents who granted permission, and their offspring, differed in some ways from the parents and students of those who did not. In addition, this study was conducted only in one higher SES and two lower SES Rhode Island schools and therefore did not include a sufficient sample to generalize to all higher and lower SES students in the fifth grade. Third, there were unequal ratios of White and minority participants in the two SES groups; it would have been preferable to have comparable distributions of ethnicities in each cohort. Also, the minority sample was diverse for each SES cohort (i.e., participants of minority racial or ethnic groups included Black, Hispanic, Asian, Native American, Multiracial, and Other pupils). In terms of the variety of minority groups represented, because of the cultural differences associated with different races and ethnicities, this may have

impacted students' performances within the subgroups included. Likewise, because of the English measures used in this study, non-English speaking students were unable to participate. Thus, it was not possible to evaluate possible differences associated with students whose primary language is not English.

A further limitation to this study is that income demographics were not collected for each participant; instead SES was based on each school's free and reduced lunch figures. As a result, some of the students who participated from a school may have come from homes that were not in the income category identified for that school (i.e., as high or low SES). The alternative approach to examining SES based on vocabulary scores is also not a representative measure of SES. Future research should attempt to collect direct information pertinent to SES for individual students, rather than relying on FRL levels for schools or to use vocabulary scores as a proxy for SES.

Further research is needed to more thoroughly examine the relationships between reading self-concept and reading performance across and within SES cohorts. Marsh and Parker (1984) provided a more rigorous way to test the relationship between how students perceive their academic performance and their actual performance across higher and lower SES schools. Performing a replica of that study but focusing on reading performance and reading self-concept would be beneficial. In addition, looking beyond the fifth grade to middle- or high-school grades would broaden understanding of how these reading self-concept may change over time, particularly for the lower SES students.

Another approach to future research could be to replace the variable of reading self-concept with that of reading self-efficacy. Bandura (2006) discussed that self-efficacy influences accomplishments, expectations, and commitments to goals.



Furthermore, self-efficacy relates to future goals whereas self-concept is conceptualized as corresponding with past accomplishments (Bong & Skaalvik, 2003). Although these variables are similar in their underlying constructs, one of the main differences is that self-concept relies on social comparison whereas self-efficacy relies on an individual's own goals. Therefore, it could be informative for future investigations to explore predictors of reading self-efficacy and whether this dimension relates to staying in high school or dropping out.

In sum, the present study indicates that reading self-concept is distributed similarly across SES groups in the fifth grade and appears to be framed based on comparison of a student's reading performance with his or her peers. As shown in prior research, the results confirmed that reading performance and vocabulary knowledge differ based on SES, with higher SES participants performing better on measures of these than did the lower SES students. The findings verified that reading performance is the major predictor of reading self-concept, with SES having a small association with reading self-concept after accounting for language and literacy performance. These results broaden understanding in terms of SES of the correspondence of reading self-concept with reading performance.

## APPENDIX A

### **Academic Self-Concept and Academic Achievement**

In general, self-concept develops from both social and cognitive processes and pertains to the perceptions students' have about their individual abilities academically, socially, and physically (Donohue, Wise, Ronski, Henrich, & Sevcik, 2010). As students' age and develop more life experiences, their self-concepts begin to stabilize and become multidimensional (Donohue et al., 2010).

A meta-analysis conducted by Moller, Pohlmann, Koller, and Marsh (2009) on the relationship between academic achievement and academic self-concept in 69 independent data sets (N= 125,308) found that specific academic achievement correlated to that specific subject, but did not correlate highly with other specific academic areas. For example, overall math performance had an average correlation with math self-concept (.43), and verbal performance correlated with verbal self-concept (.35), however math and verbal self-concepts had a close to zero correlation (.10; Moller et al., 2009). This large investigation suggests that self-concept is multidimensional (Moller et al., 2009).

Empirical evidence indicates that up to early elementary grades, academic performance influences self-concept (Aunola, Leskinen, Onatsu-Arviolommi, & Nurmi, 2002). Some research proposes that self-concept may be identified in children as young as four-years-old, while other studies suggest it begins later in development, closer to age 8 (Donohue et al., 2010). Children's academic self-concepts begin to form based on their perceptions of their abilities to complete tasks successfully (Chapman & Tunmer, 1997).

This demonstrates that for younger children, academic achievement influences their self-concept; self-concept thus is argued to be a consequence of good or poor academic performance (Aunola et al., 2002).

As self-concept stabilizes, it in turn influences academic achievement through levels of motivation (Chapman & Tunmer, 1997); at later ages in elementary school, academic self-concept is a cause of academic performance. Stanovich (1986) studied students' reading development over time and discovered that early good readers generally continue to read well and poor readers fall further behind. Stanovich referred to this typical academic developmental process as the "Mathew-effect," referring to the "rich-get-richer and the poor-get-poorer" (Stanovich, 1986).

Academic performance shapes an individual's self-concept that later influences the motivation an individual has toward academic achievement (Aunola et al., 2002). A study conducted by Wouters, Fraine, Colpin, Damme, and Verschueren (2012), examined the effect of changes in track, or course major, on the development of academic self-concept by high school students. Those students who changed from a more difficult track to a less difficult track initially experienced higher levels of academic self-concept as opposed to the students who had not changed their track (Wouters et al., 2012).

This evidence leads to the belief that when students are among high achievers and taking difficult courses, their academic self-concepts are lower than if they drop to an easier track (Wouters et al., 2012). However, this study also found that those who changed academic tracks subsequently performed worse academically, perhaps because their motivation may have declined due to a lack of competition in the less difficult academic track (Wouters et al., 2012). Furthermore, this evidence signifies the

importance of the reference group (high achievers or lower achievers) with which a student identifies.

In summary, academic achievement and academic self-concept coincide. During the early elementary years when self-concept not yet developed, student academic ability forms self-concept related to academic achievement (Aunola et al., 2002). In turn, once self-concept is established and concrete, academic self-concept acts as a strong or weak motivation tool that either enhances or reduces academic performance (Chapman & Tunmer, 1997).

## APPENDIX B: Reading Self-Concept Scale—Original Version

### READING SELF-CONCEPT SCALE QUESTIONS AND RECORD FORM



Name ..... Boy ..... Girl .....

Year/Class ..... School.....

Year ..... Age .....

*Say: I'm going to ask you some questions about how you feel about reading. There are no right or wrong answers to these questions. Everyone will have different answers because different kids have different feelings.*

*When I ask you a question, I want you to tell me how you feel by saying 'YES' or 'NO'. Your answers are just about you; how you really feel. I will not show your answers to anyone else.*

*Let's try a few examples first. I will read you a question and you will tell me how you feel by saying 'YES' or 'NO'. I will also tell you how my friend Danny/Annie [or choose another name] answered these examples.*

*You might not understand some questions or some words in the question. That's OK. If you don't understand something, just tell me you don't know what it means, and I'll explain it to you.*

### Examples

1. *Do you like to draw pictures?*

Ask the child if he/she understands the sentence. Repeat the sentence. Ask the child to say YES or NO. Probe the child's response e.g. YES ALWAYS or YES USUALLY.

*Danny answered 'YES ALWAYS' to this question. He really likes to draw pictures whenever he can. If Danny did not like to draw pictures, he would have answered 'NO NEVER'. If most of the time he did not like to draw pictures, he would have answered 'NO NOT USUALLY'.*

2. *Do you do neat printing?*

Ask the child if he/she understands the sentence. Repeat the sentence. Ask the child to say YES or NO. Probe the child's response.

*Danny answered 'YES USUALLY' because most of the time he prints words neatly and carefully, but not always.*

3. *Do you keep your bedroom tidy?*

Ask the child if he/she understands the sentence. Repeat the sentence. Ask the child to say YES or NO. Probe the child's response.

*Danny answered 'NO NOT USUALLY', because most of the time he does not keep his room tidy, but sometimes he tries to keep it tidy.*

4. *Are you good at riding a bike?*

Ask the child if he/she understands the sentence. Repeat the sentence. Ask the child to say YES or NO. Probe the child's response.

*Danny answered 'NO NEVER', because he is never good at riding a bike. He always bangs into things and falls off.*



No: Never	No: Not usually	Child understands sentence but is not sure	Yes: Usually	Yes: Always
1	2	3	4	5

## Practice items

- |  |  |
|--|--|
|  | A. Do you ride your bike to school?      |
|  | B. Do you like to play cricket?          |
|  | C. Are you good at playing marbles?      |
|  | D. Do you enjoy skipping?                |
|  | E. Is painting pictures hard for you?    |
|  | F. Can other kids swim better than you?  |
|  | G. Is it hard for you to spell words?    |
|  | H. Do you like playing marbles?          |
|  | I. Do you have problems counting things? |
|  | J. Do you like climbing trees?           |

- |    |   |
|----|---|
| C  | 12. Is it easy for you to read new words?                                   |
| A  | 13. Do you like reading stories with lots of words in them?                 |
| D* | 14. Do the other kids in your class read better than you?                   |
| C  | 15. Are you good at correcting mistakes in reading?                         |
| A  | 16. Are you interested in reading?  |
| D* | 17. If you can't say a word, do you get someone to help you?                |
| D* | 18. Do you make lots of mistakes in reading?                                |
| A  | 19. Do you look forward to reading?   |
| D* | 20. Do you feel stupid in reading?  |
| C  | 21. Can you work out sounds in words?                                       |
| A  | 22. Do you like reading to yourself?  |
| D* | 23. Do you need extra help in reading?                                      |
| C  | 24. Do you learn things quickly in reading?                                 |
| A  | 25. Do you like doing reading in class?                                     |
| D* | 26. Is it hard for you to understand the stories you have to read in class? |
| C  | 27. Do you think you read well?   |
| D* | 28. Does work in reading make you feel unhappy?                             |
| C  | 29. Can you work out hard words in a story even if there are no pictures?   |
| A  | 30. Do you like reading at home?  |

## Scale items

- |    |   |
|----|---|
| C  | 1. Can you work out what a story means?                         |
| A  | 2. Do you feel good when you do reading work?                   |
| D* | 3. Is reading to the class hard for you?                        |
| C  | 4. Can you work out hard words by yourself when you read?       |
| A  | 5. Do you like word games in class?                             |
| D* | 6. Are the books you read in class too hard?                    |
| C  | 7. Is work in reading easy for you?                             |
| A  | 8. Do you like reading to your Mum and Dad?                     |
| C  | 9. Are you good at remembering words?                           |
| A  | 10. Is it fun for you to read books?                            |
| D* | 11. Do the other kids in your class read harder words than you? |

	Sum responses	Mean
DIFFICULTY (D*)=	<input type="text"/>	<input type="text"/>
COMPETENCE (C)=	<input type="text"/>	<input type="text"/>
ATTITUDE(A)=	<input type="text"/>	<input type="text"/>
TOTAL (D+C+A)=	<input type="text"/>	<input type="text"/>

\* Note that all Difficulty subscale items are reverse scored.

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Code 009000 7300



**APPENDIX C: Reading Self-Concept Scale—This Study**

**READING SELF-CONCEPT SCALE  
STUDENT FORM**

**NAME:** \_\_\_\_\_

**AGE:** \_\_\_\_\_

**SCHOOL:** \_\_\_\_\_

**MALE OR FEMALE (circle one)**

**Today's Date:** \_\_\_\_\_

**PLEASE ANSWER THE FOLLOWING QUESTIONS BASED ON THIS 5-POINT  
SCALE:**

<b>No: Never</b>	<b>No: Not Usually</b>	<b>Not Sure</b>	<b>Yes: Usually</b>	<b>Yes: Always</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

**Practice Items**

**In the empty box, write the number that best describes you:**

<b>a.</b>	<b>Do you ride your bike to school?</b>	
<b>b.</b>	<b>Do you like to play soccer?</b>	
<b>c.</b>	<b>Are you good at playing basketball?</b>	
<b>d.</b>	<b>Do you enjoy running?</b>	
<b>e.</b>	<b>Is painting pictures hard for you?</b>	
<b>f.</b>	<b>Can other kids swim better than you?</b>	
<b>g.</b>	<b>Is it hard for you to spell words?</b>	
<b>h.</b>	<b>Do you like playing board games?</b>	
<b>i.</b>	<b>Do you have problems counting things?</b>	
<b>j.</b>	<b>Do you like to dance?</b>	

Now, you will be answering some questions about reading. Some of the questions are similar to others but we would like you to answer each question.

PLEASE ANSWER THE FOLLOWING QUESTIONS BASED ON THIS 5-POINT SCALE:

No: Never	No: Not Usually	Not Sure	Yes: Usually	Yes: Always
1	2	3	4	5

### Scale Items

In the empty box, write the number that best describes you:

A.	Can you explain what a story means when asked?	
B.	Do you enjoy doing reading activities?	
C.	Is reading out loud to the class hard for you?	
D.	Can you figure out hard words by yourself when you read?	
E.	Do you like word games in class?	
F.	Are the books you read in class too hard?	
G.	Is reading easy for you?	
H.	Do you like reading to your Mom, Dad, or other members of your family?	
I.	Are you good at recognizing words that you have read before?	
J.	Is it fun for you to read books?	



<b>K.</b>	<b>Do the other kids in your class read harder words and books than you?</b>
<b>L.</b>	<b>Is it easy for you to read new words?</b>
<b>M.</b>	<b>Do you like reading stories with lots of words in them?</b>
<b>N.</b>	<b>Do the other kids in your class read better than you?</b>
<b>O.</b>	<b>Do you make lots of mistakes in reading?</b>
<b>P.</b>	<p><b>If you answered 'Yes: Usually' or 'Yes: Always' to the previous question (Question O), please answer the following:</b></p> <p><b>Are you good at correcting mistakes in reading?</b></p>
<b>Q.</b>	<b>Do you like to read?</b>
<b>R.</b>	<b>If you can't say a word, do you get someone to help you?</b>
<b>S.</b>	<b>Do you look forward to reading?</b>
<b>T.</b>	<b>Do you feel stupid in terms of your reading ability?</b>
<b>U.</b>	<b>Are you good at sounding out words, when you need to?</b>
<b>V.</b>	<b>Do you like reading to yourself?</b>

<b>W.</b>	<b>Do you need extra help in reading?</b>	
<b>X.</b>	<b>Do you learn things quickly in reading?</b>	
<b>Y.</b>	<b>Do you like reading out loud to the class?</b>	
<b>Z.</b>	<b>Do you like reading by yourself at home?</b>	
<b>AA.</b>	<b>Is it hard for you to understand the stories you have to read in class?</b>	
<b>BB.</b>	<b>Do you think you read well?</b>	
<b>CC.</b>	<b>Does reading make you feel unhappy? Can you figure out hard words in a story even if there are no pictures?</b>	
<b>DD.</b>	<b>Can you figure out hard words in a story even if there are no pictures?</b>	

## APPENDIX D: Consent Form (English)

### Parental Permission

Lily Hall  
The University of Rhode Island  
Department of Psychology  
10 Chafee Road  
Kingston, RI 02881

*Examining Reading Performance and Reading Self-Concept of Fifth-Grade Students  
From High and Low Socio-Economic Schools*

#### PARENTAL PERMISSION FORM FOR RESEARCH

Dear Parent or Guardian,

Your child is invited to take part in a study of fifth-grade students' reading and of how they feel about their reading skills. My name is Lily Hall (phone: 401-524-7172) and I am a doctoral student at the University of Rhode Island in the Department of Psychology working with Susan Brady, Ph.D., my major professor (phone: 401-874-2193). The project is being done as part of the requirements for my degree. The primary purpose of this project is to examine some of the factors that may contribute to reading performance and reading self-concept, which is defined as the way in which one perceives his or her reading abilities, with fifth-grade students.

#### *Description of the project and what will be done:*

If you allow your child to participate, he or she will first be asked to provide his or her assent to participate. Even if you grant your child permission to participate, your child will still have the opportunity to choose to participate or not participate. If your child agrees to participate then he or she will be asked to do five tasks, three of which will have your child read words or short passages. The fourth will have your child look at pictures and say which picture matches a word. The last one will have your child answer questions about how they feel about reading. It will take about 30 minutes to do the five tasks. After your child finishes the study, he or she will be receive a little treat such as a pencil or sticker as a thank you for participating.

These tasks will be given at your child's school by me or by a college student assisting me. Most of this will be done one-on-one, and therefore your child will work with me or my assistants in a quiet part of the school (for example, in an office). The task that asks the student to indicate how they feel about reading may be carried out with small groups of students (they will not see the other students' answers), and if so, a classroom in the school may be used. All study personnel have had background criminal checks and have completed a human subjects exam in order to allow them to work with your child.

#### *Risks or discomfort:*

Because students will be asked to take part during school hours, your child would miss around 30 minutes of class time. However, we would be sure to do this at a time that is

convenient both for him or her, as well as for the teacher. Students generally enjoy participating in this kind of study and we do not expect your child to experience discomfort as a result of taking part. Some students may feel slightly uncomfortable about revealing their reading skills or reading self-concept. If they choose not to answer any questions, that is fine.

*Benefits of this study:*

A benefit of allowing your child to take part is that we will share the reading scores with your child's teacher, possibly helping the teacher with decisions about what reading instruction would be suitable for your child. Likewise, if you would like to know how your child did on the reading measures, I would be glad to share that with you.

*Confidentiality:*

Other than sharing the reading scores with your child's teacher, and possibly with you, no one else would see your child's results. In any written report or presentation about this study, no children's names will be included and only group results will be provided.

*Decision to quit at any time:*

Of course, your child does not have to participate in this study, and if they do decide to take part, they may quit at any time. If your child stops participating in the study, it will not affect his or her education.

*Rights and complaints:*

If you have any questions or concerns at any point, you may contact my professor, Dr. Susan Brady (sbrady@uri.edu, (401-874-2193), or me ([lehall1@my.uri.edu](mailto:lehall1@my.uri.edu), (401-524-7172), anonymously, if you choose. In addition, you may contact the office of the Vice President for Research, 70 Lower College Road, Suite 2, University of Rhode Island, Kingston, Rhode Island (401-874-4328).

Thank you very much for considering letting your child take part in this project. Please feel free to talk it over with your child, as well.

Sincerely,

**Lily Hall**

Lily Hall  
Doctoral Student in School Psychology  
University of Rhode Island

CONSENT FORM

You are making a decision about allowing your child to take part in this study. Your signature on this form means that you have read the letter above, understand the information, and give your consent for your child to participate if he or she wishes to do so. If you later decide that you wish to withdraw your permission for your child to take part, simply let Lily Hall ([lehall1@my.uri.edu](mailto:lehall1@my.uri.edu), 401-524-7172) or Dr. Brady ([sbrady@uri.edu](mailto:sbrady@uri.edu), 401-874-2193) know. You may discontinue your child's participation at any time.

\_\_\_\_\_  
Signature of Parent/Guardian

\_\_\_\_\_  
Typed or Printed Name

\_\_\_\_\_  
Name of son/daughter

\_\_\_\_\_  
Date

Please sign here if you would like Lily Hall to share your child's reading scores with you at the school at a later date, either before or after school at a date and time to be arranged. If so, please provide contact information (either an e-mail address or a phone number) so that she will be able to set up a meeting with you.

\_\_\_\_\_  
Signature of Parent/Guardian

\_\_\_\_\_  
E-mail or phone number

*Please sign both consent forms, keeping one for yourself.*

## APPENDIX E: Consent Form (Spanish)

### Consentimiento de los padres

Lily Hall

La Universidad de Rhode Island (The University of Rhode Island)

El Departamento de Psicología

10 Chafee Road

Kingston, RI 02881

*Examinando el rendimiento y auto-concepto de la lectura de estudiantes del quinto grado en las escuelas de socio-economía alta y baja*

### FORMULARIO DE CONSENTIMIENTO PARENTAL DE LA INVESTIGACION

#### Estimado padres o tutores legales:

El estudio o investigación en la que su niño ha sido invitado a participar fue diseñada con el propósito de investigar cómo los estudiantes del quinto grado leen y sus percepciones de rendimiento de lectura. Mi nombre es Lily Hall y soy una alumna en el programa de doctorado en la Universidad de Rhode Island (The University of Rhode Island) trabajando bajo la supervisión de Dr. Susan Brady en el Departamento de Psicología (teléfono: 401-874-2193). Esta investigación está siendo llevada a cabo como parte de los requisitos para mi graduación. La razón principal de esta investigación es para examinar los factores que contribuyen al rendimiento y el concepto propio de lectura de los estudiantes, cual esta definido como a la forma en la cual uno percibe las habilidades de lectura del alumno en quinto grado.

#### *Descripción del proyecto y qué va a pasar:*

Si permite que su niño participe, a él o ella se le pedirá que provea su consentimiento para participar. Aún si usted concede el permiso del niño para participar, el niño tiene el derecho de elegir participar o no. Si el niño esta de acuerdo de participar, entonces se le pedirá a él o ella realizar cinco tareas en total. Tres de las cuales el niño tendrá que leer palabras o breves pasajes. Para la cuarta tarea el niño tendrá que ver unas imágenes y decir cual de ellas encaja con la palabra. En la ultima tarea el niño tendrá que responder preguntas acerca de como se sienten sobre el rendimiento en la lectura. Las cinco tareas tomara 30 minutos en completar. Cuando su niño termine, él o ella recibirá un regalo que será un lápiz o una calcomanía como agradecimiento por su participación.

Estas tareas serían dadas en la escuela del niño por mi o un estudiante universitario que me estará asistiendo. La mayoría de las tareas van a ser en privado; y por tanto, su niño trabajará conmigo o mi asistente en un lugar silencioso de la escuela (como una oficina). La tarea se le asignara para determinar como ellos se sienten sobre la lectura, será llevado a cabo en grupos pequeños de alumno (no verán las respuestas de los demás), y además, una aula puede ser utilizado. Todos los investigadores en el estudio toman un examen sobre el trato de sujetos humano, y se les hace una revisión de antecedentes penales antes de ser autorizados para trabajar con su niño.

#### *Los riesgos o incomodidades:*

Como a los alumnos se le pedirá la participación de su niño, esta investigación se hará durante las horas de escuela, el niño perdería aproximadamente 30 minutos de clase. Sin embargo, nos aseguraremos de que esto sea realizado en un momento que sea conveniente para él o ella, y también para el maestro.

Generalmente a los niños les gusta participar en estos tipos de investigaciones y es poco probable que su niño experimente alguna incomodidad intensa como resultado de participación en este estudio. Sin embargo, algunos alumnos se puedan sentir incómodos respondiendo sobre su rendimiento o auto-concepto de lectura. Puedan reusarse a responder cualquier pregunta en cualquier momento sin penalidad o pérdida de los beneficios que se le han atribuido.

#### *Beneficios del estudio:*

El beneficio de dejar a su niño participar en este estudio es que compartiremos los resultados de lectura con el maestro del niño, y posiblemente ayuden al maestro en la toma de decisiones acerca de que tipo de instrucción de sea la más adecuada para el niño. Además, si usted quiere saber los resultados de la lectura, estaría abierta a compartir los resultados con usted.

#### *Confidencialidad:*

Nadie más que el maestro o posiblemente usted tendrá acceso a los resultados de lectura. Por lo tanto, no nos tiene que proveer con ninguna información que nos demuestre su identidad. La presentación de los resultados de este estudio será reportada en formato de grupo solamente y completamente anónima.

*La decisión de terminar en cualquier momento:*

Por su puesto, su niño es libre de retirarse o de reusarse a responder cualquier pregunta en cualquier momento. Si su niño/a deja de participar en el estudio, su educación no se verá afectada.

*Derechos y quejas:*

Si tiene preguntas o comentarios en cuanto a esta investigación, usted puede contactar a la profesora, Dr. Susan Brady (sbrady@uri.edu, (401-874-2193), o a mi (lehall1@my.uri.edu, (401-524-7172), anónimamente, si quiere. Podría también contactar the office of the Vice President for Research, 70 Lower College Road, Suite 2, University of Rhode Island, Kingston, Rhode Island (401-874-4328).

Le agradecemos de antemano por considerar la participación de su niño en este proyecto. Si usted gusta hable con su niño/a sobre el proyecto por favor.

Atentamente,

**Lily Hall**

Lily Hall

Alumna Doctorada de Psicología Escolar

La Universidad de Rhode Island

## FORMULARIO DE CONSENTIMIENTO

Usted está tomando la decisión de permitir que su niño sea aparte de este estudio. Su firma en este formulario de consentimiento quiere que usted ha leído la carta mostrada arriba, que entiende la información, y que da su consentimiento para que el niño participe si él o ella así lo desea. Si luego usted quiere retirar el permiso para que su niño no participe, no dude en informarlo a Lily Hall (lehall1@my.uri.edu, 401-524-7172) o al Dr. Susan Brady (sbrady@uri.edu, 401-874-2193). Usted se puede suspender la participación del niño en cualquier momento.

\_\_\_\_\_  
Firma del padre/tutor legal

\_\_\_\_\_  
Nombre escrito el letra de molde o de imprenta

\_\_\_\_\_  
Nombre del niño

\_\_\_\_\_  
Fecha

Por favor firme aquí si lo le gustaría Lily Hall compartiese los resultados de lectura con usted en la escuela. En una fecha más adelante o antes o después de la escuela en una fecha y hora a fijar. Si es así, por favor díganos su información de contacto (como correo electrónico o número de teléfono) para que de tal manera ella pueda arreglar una reunión con usted.

\_\_\_\_\_  
Firma del padre/tutor legal

\_\_\_\_\_  
Correo electrónico o número de teléfono

***Por favor firmar ambas formularios de consentimiento, conserve uno para usted.***



**APPENDIX F: Child Assent Form**  
Reading Comprehension Research Study  
Assent Form

My name is Lily (or undergraduate research assistant's name). I am doing a research project to try to find out more about how fifth-graders feel about reading about how they are doing in reading.

If you agree to participate, I will ask you to do the following reading tasks:

- Reading words; and
- Reading short passages.

In addition, I will ask you to do other kinds of tasks that do not involve you having to read anything, including:

- Looking at pictures and telling me which picture matches a word;
- Answering questions about how you feel about your reading performance.

Some of the things you would do will be easy for you; others might be a bit harder for you to do. Altogether, it will take you about 30 minutes to take part.

You may ask questions about the study at any time. Also, if you decide you don't want to finish, you may stop whenever you want. You don't have to answer any questions that you don't want to.

You may talk this over with your parents before you decide to be in the study or not if you would like. Your parents gave their permission for you to be in this study, but it is still up to you - you can decide not to do this.

Signing this paper means that you have read this form or had it read to you and that you want to be in the study. If you don't want to be in the study, don't sign the paper. Remember, being in the study is up to you. No one will mind if you don't sign this paper or even if you decide to stop later.

Signature of participant: \_\_\_\_\_ Date: \_\_\_\_\_

Signature of Investigator: \_\_\_\_\_ Date: \_\_\_\_\_

## **APPENDIX G: Post Hoc Analyses on Vocabulary Based SES**

Vocabulary knowledge was considered an alternative index for SES because of the research that reveals that higher income children generally have more vocabulary knowledge than do children from lower income homes. Specifically, Hart and Risley (1995) detected a multimillion word gap between pre-kindergarten children from lower SES homes, who had weaker vocabularies, compared to those from middle income homes.

Post hoc analyses were run including a MANOVA, follow-up ANOVAs, and hierarchical regression analyses in order to evaluate the patterns of results when vocabulary scores were used as an alternative variable for SES.

The full sample of participants (N= 102) was separated into two groups based on their vocabulary scores. The higher SES group consisted of those participants who scored a standard score of 96 or above on the PPVT-4, whereas the lower SES group included participants who scored a standard score of 95 or below. In other words, students in the higher SES group were those with higher vocabulary scores than were those in the lower SES group. Sixty-nine participants were included in the higher SES group and 33 participants were in the lower SES group. Based on vocabulary scores, five of the students from the higher SES school group were switched into the lower SES vocabulary group and 22 participants from the lower SES school group switched into the higher SES vocabulary group.

A one-way between-groups MANOVA was performed to investigate vocabulary SES group differences in reading performance and reading self-concept. SES based on vocabulary scores was the independent variable. There was a statistically significant

difference between higher SES and lower SES groups on the combined dependent variables,  $F(4, 97) = 12.05, p < .01$ ; Wilks' Lambda = .67; eta-squared = .33.

Considering the dependent variables separately, all variables reached statistical significance: Word ID,  $F(1, 100) = 35.49, p < .01$ , eta-squared = .26; Word Attack,  $F(1, 100) = 20.74, p < .01$ , eta-squared = .17; Passage Comprehension,  $F(1, 100) = 36.91, p < .01$ , eta-squared = .27; and Reading Self-Concept,  $F(1, 100) = 7.18, p < .01$ , eta-squared = .07.

Table 14.

*Summary of ANOVA Results with SES Based on Vocabulary Knowledge as the Independent Variable for Each Dependent Variable*

Variable	<u>Higher SES</u> (N= 69)		<u>Lower SES</u> (N= 33)		<u>ANOVA Results</u>		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F(1, 100)</i>	<i>p</i>	$\eta^2$
Word ID	110.26	11.74	95.97	10.43	35.49	<.01**	0.26
Word Attack	112.70	10.96	101.73	12.23	20.74	<.01**	0.17
Passage Comp.	103.26	10.08	90.85	8.69	36.91	<.01**	0.27
RSCS	3.88	0.52	3.55	0.68	7.18	<.01**	0.07

\*  $p < 0.05$ . \*\* $p < 0.01$ .

Follow-up one-way between-groups ANOVAs were conducted to further analyze the mean differences between SES groups based on vocabulary on each dependent variable (see Table 14 for a summary of the ANOVA results for SES based on vocabulary knowledge). Comparable to the MANOVA results, the three reading measures and reading self-concept scores differed significantly between SES groups:

Word ID,  $F(1, 100) = 35.49, p < .01, \eta^2 = .26$ ; Word Attack,  $F(1, 100) = 20.74, p < .01, \eta^2 = .17$ ; Passage Comprehension,  $F(1, 100) = 36.91, p < .01, \eta^2 = .27$ ; and Reading Self-Concept,  $F(1, 100) = 7.18, p < .01, \eta^2 = .07$ . These analyses demonstrate that the measures of Word ID, Word Attack, Passage Comprehension, and Reading Self-Concept significantly differed based on SES determined by vocabulary knowledge. The higher SES participants performed better on the reading tasks and rated their reading self-concepts higher than did the students in the lower SES group.

Table 15.

*Summary of Hierarchical Regression Results for Predictors of Reading Self-Concept for All Students from the Higher and Lower SES Groups Based on Vocabulary Knowledge (N=102)*

<i>Step</i>	<i>Variable Added</i>	<i>R change</i>	<i>p</i>	<i>Final <math>\beta</math></i>
1	RP*	.24	<.01	
2	SES	.00	.95	-.01
1	SES	.07	<.01	.26
2	RP*	.17	<.01	

*\*RP: Reading performance measures; Word ID, Word Attack, and Passage Comprehension*

Two hierarchical multiple regression analyses were conducted to measure the contributions of reading performance (i.e., Word ID, Word Attack, and Passage Comprehension scores) and SES based on vocabulary knowledge to reading self-concept (see Table 15 for regression results with vocabulary knowledge representative of SES). The first model consisted of the three reading measures that were entered together in the first block followed by the vocabulary knowledge (PPVT-4) SES variable, which was

entered in the second block. In Step 1, the reading performance variables exerted a large effect, explaining 24% of the variance in reading self-concept,  $R^2 = .24$ ,  $F(3, 98) = 10.01$ ,  $p < .01$ . Next, the vocabulary variable, which represented SES, was entered in Step 2 and did not account for any additional portion of the variance over and above reading performance. The overall model explained 24% of variance on reading self-concept,  $F(4, 97) = 7.44$ ,  $p < .01$ .

The second model analyzed the variables in the reverse order. Step 1 included the vocabulary based SES variable, which exerted a small effect, explaining 7% of the variance on reading self-concept in a positive direction ( $\beta = .26$ ),  $R^2 = .07$ ,  $F(1, 100) = 7.18$ ,  $p < .01$ . In Step 2, the reading performance variables were entered together and accounted for an additional 17% of the variance over and above SES based on vocabulary,  $R^2 \text{ change} = .17$ ,  $F \text{ change}(3, 97) = 7.09$ ,  $p < .01$ . Overall, the model explained 24% of the reading self-concept variance,  $F(4, 97) = 7.44$ ,  $p < .01$ .

Results from the first model indicate that reading performance significantly contributes to reading self-concept. Vocabulary-based SES did not account for any of the reading self-concept variance over and above reading performance. In the reverse regression model, the results show that both that vocabulary knowledge based SES variable and reading performance measures significantly contribute to reading self-concept. The results from each of the regression models demonstrate that vocabulary based SES shares variance with reading performance.

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