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## The Association of Teachers' Perceptions with Second Graders' Behavior and Academic Achievement: Examining Race and Gender Differences

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THE FLORIDA STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

THE ASSOCIATION OF TEACHERS' PERCEPTIONS WITH SECOND GRADERS'

BEHAVIOR AND ACADEMIC ACHIEVEMENT:

EXAMINING RACE AND GENDER DIFFERENCES

By

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A Thesis submitted to the  
Department of Psychology  
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## ABSTRACT

This study was designed to address the following questions (a) to what extent do teachers' judgments of students' academic competence and problematic behavior agree with direct assessments of reading and self-regulation? (b) to what extent are teachers' judgments affected by students' race and gender? And, if they are affected by students' race and/or gender, are these race and gender differences reflected in the direct assessments and (c) to what extent do teachers' judgment of their students' academic competence and problematic behavior predict spring reading and self-regulation outcomes, controlling for fall scores. The study examined second graders' (n=570 students, 40 classrooms, 8 schools) self-regulation skills using the Head-Toes-Knees-Shoulders Task (HTKS). The Woodcock Johnson Achievement – Passage Comprehension subtest was utilized as a measure of reading ability. Of the sample, 39% of the children were African American (Black), 48% were White. 47% were boys. Teachers' ratings of students' academic competence generally agreed with direct assessment of reading however agreement was greater for academic competence than for problematic behavior. This is likely because teachers had access to the students' reading assessments. At the same time, teachers' judgments appeared to be influenced by students' gender and race; they generally rated African American boys to be less academically competent than White boys, and less competent than girls regardless of race. Teachers' judgments predicted spring outcomes even when controlling for fall scores.



## INTRODUCTION

The classroom-learning environment and teachers are among the most important sources of influence on children's developing academic and self-regulation skills (Anderman, Andrzejewski, & Allen, 2011; Ready, & Wright, 2011; Ewing & Taylor, 2009). Longstanding research findings show that teachers' perceptions of their students' aptitudes shape their expectations for students' academic success, the ways in which they interact with students, and the learning opportunities they provide to students (Hamre & Pianta, 2001). Research suggests that teachers may systematically underestimate the skills and abilities of young boys and certain ethnic/racial groups (Ewing & Taylor, 2009; Duske & Joseph, 1983; Fabregat, Almecelas & Beltri, 199). Educational research and policy reform has increased the use of various assessments to monitor student achievement (Duske & Joseph, 1983; Meisel, Bickel, Nicolson, Xue, & Atkins-Burnett, 2001). With these new policy changes and school reforms, teachers now have better assessment data to inform their understanding of students' capabilities and needs. The 2001 No Child Left Behind Act [NCLB] requires that all children be assessed as a way to improve students' achievement. In addition to this, NCLB Act was established in efforts to disaggregate the achievement of minority students (No Child Left Behind [NCLB], 2003). With universal screening and standardized assessments being used to a much greater extent, teachers' perceptions of students should be more accurate (i.e., more in line with students' actual achievement levels) and less influenced by child characteristics such as race and gender than older research findings have suggested. Hence, the proposed study examines teachers' assessment of their students' academic competence and problematic behavior during the 2007-2008 school year and compares teachers' perceptions with results of direct assessments for students, and then investigates whether teachers' perceptions systematically vary based on students' gender and/or race.

### *Key Student Characteristics*

*Comprehension.* For the purpose of this study, students' reading comprehension will be utilized as a direct measure of academic competence. Connor and colleagues (2010) stressed the importance of reading comprehension, by highlighting the expanding research that has focused on a number of underlying processes and components or skills related to comprehension (NICHD, 2000; Rayner, Foorman, Perfetti, Pesetsky, &

Seidenberg, 2001; Wilson & Rupley, 1997). They expressed the importance of comprehension in “skills such as semantic knowledge, vocabulary (Biemiller & Boote, 2006) comprehension strategy use (NICHD, 2000; van den Broek, Risdien, Fletcher, & Thorlow, 1996; Wilson & Rupley, 1997), awareness of text structure (Williams, Stafford, Lauer, Hall, & Pollini, 2009), background knowledge (Rapp, et al., 2007; Wilson & Rupley, 1997), self-regulation, and attention (McClelland et al., 2007).”

As reported by Harrison and Hodges (1995), comprehension is important because skilled readers use questions to focus their attention as they read or to connect what is in the text with their prior knowledge. Good comprehension skills can lead the reader to generate questions and to predict what might be found in text still to be read, or to identify aspects of the writer’s style or perspective. Proficient readers understand that creating, pondering, and answering questions about what they have read deepens their understanding (Harris and Hodges, 1995). For these reasons, this study intends to examine teachers’ perceptions/expectations of students’ academic competence and compare them to direct measures of students’ gains in comprehension.

*Self-Regulation.* The term “self-regulation” is typically used to refer to goal-directed behaviors or to feedback loops (Vohs & Baumeister, 2004) and is associated with problematic behavior, students with weaker self-regulation generally have more problematic behavior (Connor et al., 2010). Self-regulation can be measured with regard to several aspects; impulse control, action (task oriented), attention, memory, and emotional regulation. McCabe and colleagues (2004) found that a child’s motor control and sustained attention could be utilized as an assessment of self-regulation in laboratory and school settings which directly reflect a child’s behavior. They also found links between the ability to regulate one’s own emotional, behavioral, and later developmental outcomes (McCabe, Rebello-Britto, Hernandez, & Brooks-Gunn, 2004). Research has shown that the ability to self-regulate has been associated with secure attachments, (Vondra, Shaw, Swearingen, Cohen, & Owens, 2001), emotional knowledge (Schultz, Izard, Ackerman, & Youngstrom, 2001), social competence (Denham et al., 2003; Eisenberg et al., 2003; Fabes et al., 1999), conscience (Kochanska, Murray, & Coy, 1997), and resiliency (Eisenberg, Guthrie, et al., 1997). Importantly early regulatory difficulties predict later problematic social behaviors in students (McCabe et al., 2004;

Campbell, Pierce, March, Ewing, & Szumowski, 1994; Newman, Caspi, Moffitt, & Silva, 1997).

Whereas there are internal, physiological processes at work that underlie self-regulation skills (commonly known as ‘executive function,’ or ‘effortful control’) this study seeks to examine the overt behaviors and skills related to self-regulation that can be observed and measured (Barkley, 1997). If a child is not able to pay attention to a particular task, this can negatively influence his or her ability to pay attention to his/her teacher(s) in school. Teacher reports of student regulation levels have been shown to be useful, but they are open to threats of observer bias when the student’s ethnic background differs from the teacher’s (Cameron et al., 2005). Therefore, comparing teachers’ perceptions of students’ behavior to direct measures of students’ self-regulation, such as the Head-Toes task (Ponitz et al., 2008), may assist in examining how self-regulation and behavior vary with regard to race, gender, and school context.

#### *The Importance of Teachers’ Perception*

Teachers’ perceptions of and expectations for their students are important for several reasons. First, there is an increased expectation for teachers to use assessments of individual students’ strengths and needs to make decisions about instruction (Connor, Morrison, Fishman, et al., 2011). Whether they are using formative assessments or using their professional opinion, teachers’ decisions about their students’ instructional needs likely influence the instruction students will receive (McLean & Connor, *under review*). Second, even subtle levels of discrimination or lower expectations of students may have implications for students’ academic success (Ewing & Taylor, 2009; Good, 1987; Murray, Wass, & Murray, 2008). Thus, teachers’ perceptions appear to have some effects on their students’ outcomes (Ewing & Taylor, 2009; Fan, 2011; Hartman & Fuller, 1997; Hoge & Coladarci, 1989; Jussim & Eccles, 1992; National Research Council, 2002; Wilson & Wright, 1993; Nyborg & Curry, 2003). Additionally, teacher expectations could lead to cases of stereotype threat, or self-fulfilling prophecies with regard to students’ gains (Brophy, 1983; Brophy, 1986; Kolb & Jussim 1994). The first issue to be discussed is the prevalence of subtle discriminations of teachers’ perceptions.

*Subtle discrimination of low expectations.* The teacher-student relationship has been shown to influence teachers’ expectations of students based on teacher-student

“closeness” (a close teacher–child relationship is characterized by warmth, open communication, support, and the teacher serving as a “secure base” from which the child can actively explore the environment; Ewing & Taylor, 2009; Hughes, Cavell, & Willson, 2001). Also, research has shown that teacher-rated teacher-student relationships significantly predict academic competence, and there also tends to be stronger “closeness” (i.e., better rapport) with girls than with boys (Ewing & Taylor, 2009). It has been shown that teachers generally demand more from students that they view as higher achievers and treat them with more respect (Good, 1987). Moreover, teacher-student relationships have been found to vary based on factors such as race, gender, and student socio-economic status (SES; Ewing & Taylor, 2009; Murray, Wass, & Murray, 2008). Even subtle differences in teacher-student relationships could lead to changes in both academic and behavioral gains in students (Ewing & Taylor, 2009). Also, teacher-student relationships have been found to affect student adjustments differently depending on student race; teacher favoritism of White students over Black and Hispanic children leads to lower rates of school adjustment for minority students (Murray, Wass, & Murray, 2008).

*Effects on students.* In general, teachers’ perceptions and expectations of their students appear to have both personal and academic effects on students (Nyborg & Curry, 2003). For example, studies have shown that teachers exert influence on whether students become intrinsically interested in subjects of mathematics and/or English, which influences academic gains (Ewing & Taylor, 2009; Fan, 2011). Another example of how teachers’ perceptions matter is with regard to student referrals (National Research Council, 2002). Teachers refer the majority of children in special education and/or gifted education programs. In many cases, these referrals fail to control for actual academic achievement or behavioral problem levels exhibited by the student(s), which could influence referral decisions dependent of the race or gender of the student (National Research Council, 2002). Of the studies that have examined the relationship between teachers’ overall perceptions of students and student overall performance, many of them report correlations ranging from .60 to above .90 (Hartman & Fuller, 1997; Hoge & Coladarci, 1989; Jussim & Eccles, 1992; Wilson & Wright, 1993). In addition, reviews of

research have repeatedly shown that teachers' negative expectations could have adverse effects on students' actual [academic] achievement (Sirota & Bailey, 2009).

*Stereotype threat.* Teacher expectations could lead to cases of stereotype threat, or self-fulfilling prophecies with regard to students' gains (Brophy, 1983; Brophy, 1986; Kolb & Jussim, 1994). Although beyond the scope of this study, it is important to briefly describe these two concepts as potential underlying reasons why teachers' perceptions may influence student performance. Stereotype threat (the experience of anxiety or concern in a situation where a person has the potential to confirm a negative stereotype about their social group) has been shown to hinder students who have a negative relationship with their teacher(s) or are perceived negatively (Gilovich, Keltner, & Nisbett, 2006; Kolb & Jussim, 1994). Self-fulfilling prophecies (predictions/beliefs that directly or indirectly become true due to positive feedback, negative feedback or subsequent affirmation) arise when teacher expectations influence students' actual achievement (Kolbe & Jussim, 1994). Research has indicated the role stereotypes have in biasing teachers' perceptions, evaluations, and memories about students' academic competence and behavior, showing that negative teacher expectations/perceptions is correlated with negative teacher-student relationships (Dusek & Joseph, 1985; for a review of stereotype threat effects see Hamilton, Sherman, & Ruvolo, 1990). These teacher-student relationships have been shown to relate directly to student academic and behavioral gains (Ewing & Taylor, 2009).

#### *Teacher Accuracy & Bias*

Studies have repeatedly shown that teachers tend to misjudge students' aptitude for reading and mathematics. While teachers generally have higher expectations for boys in mathematics, and view the subject as a male domain, they underestimate boys' reading abilities in comparison to girls (Robinson & Lubienski, 2011; Tach & Farkas, 2006). There is, however, a particular need to examine teachers' perceptions of reading skills due to the fact that gender gaps in reading, in comparison to mathematics, tends to be larger and more pervasive worldwide (Mullins, Martin, & Foy, 2008; Robinson & Lubienski, 2011). Rong (1996) analyzed the effects of student race and gender on teachers' perceptions of student social behavior and found that, in support of the cultural congruency theory, White female teachers perceived White students more positively than

Black students. In addition to this, teachers perceived Black male students to have extremely low social behaviors (Rong, 1996). But how specifically does teachers' accuracy of students vary based on students' academic competence and behavior, two factors that are key in students' academic success (Sektnan, McClelland, Acock, & Morrison, 2010)?

*Academic competence.* Research on the accuracy of teachers' perceptions of students' academic competence has been quite inconsistent. Hoge and Coladarci (1989) conducted a meta-analysis of 16 empirical studies that spanned from 1971-1988, their findings showed a moderate to strong association between teacher perceptions and student achievement ( $r = 0.66$ ). More recently, studies have analyzed the accuracy of teacher perception when Curriculum-Embedded Performance Assessments or Curriculum-Based Measures (CBM) are employed (Meisel, Bickel, Nicolson, Xue, & Atkins-Burnett, 2001). Hamilton and Shinn (2003) examined the accuracy in 29 teachers' perceptions of their students when CBM in mathematics and reading were employed. They found that overall teachers overestimated students' abilities. Conversely, Feinberg and Shapiro (2003) found that teachers were accurate in predicting students' global reading performance, but underestimated their students' oral reading fluency when employing the CBM for reading. Research suggests that teachers tend to be more accurate in perceiving students' academic competence when referencing normative measures of academic achievement, as opposed to developing perceptions or expectations without direct measures of achievement (Begeny, Eckert, Montarello, & Storie, 2008; Hoge & Coladarci, 1989; Meisel et al. 2001; Petruccioli, Fiorello, & Thurman, 2010). Begeny and colleagues (2008) found that teachers were generally accurate in estimating students' performance when students had stronger reading skills (Mastery and Instructional levels), but were not accurate in predicting average to lower reading levels (Frustration Level). This finding of teacher inaccuracy of lower-level students was replicated in the follow-up study conducted by Feinberg and Shapiro (2009). Teacher perceptions were more likely to be accurate when CBM or direct assessments were utilized; but perceptions made without direct measures of student achievement appeared to lead to misjudgments (Jussim & Eccles, 1992).

*Behavior.* In a recent study, *Examining Teacher's Beliefs about African American Male Students*, teachers and administrators were asked to explain why Black students in school were persistently failing to meet academic standards set by the state and county. The number one response given was that students had high levels of problematic behavior and poor attitudes about school (Lynn, Bacon, Totten, Bridges, & Jennings, 2010). Behavior has been shown to be a predictor of academic growth among students (Gutman, Sameroff, & Cole, 2003; Jimerson, Egeland, & Teo, 1999). It is again, for this reason that this study examines teachers' perceptions of student behavior. First, it has been shown that early teacher-child relationship quality and teacher/child behavior establish patterns for later relationship quality and behavior (Ewing & Taylor, 2009; Rudasill, 2011). Thus, if teachers perceive students as having problematic behavior, this may diminish the quality of the teacher-student relationship (student behavior and teacher-initiated interactions; Rudasill, 2011). It has also been demonstrated that boys tend to have more behavioral problems in the early school grades than girls (Kindlon & Thompson, 2002). Ewing & Taylor (2009) conducted a study that suggested that the association between teacher-child relationship quality and behavioral adjustment is a significant predictor of academic gains, and this relationship tends to be strongest for boys.

#### *Teachers' Perceptions of Race*

Research examining teachers' perceptions of students based on their race has had mixed results. Meta-analyses such as that of Dusek and Joseph (1983) and Tenenbaum and Ruck (2007) showed that, in general, teachers have more favorable perceptions of White compared to Black students on both the academic and behavioral level. Oates (2003) found results suggesting that teacher perceptions may help to foster the perpetuation of the Black-White scholastic performance gap. Teacher rated photographs of unattractive Black boys as having lower levels of competence than other groups (Parks & Kennedy, 2007). In addition to this, Black children tend to have less positive relationships with their teachers than do White or Hispanic students, which again has been shown to influence both academic gains and student adjustability to school (Ewing & Taylor, 2009; Hamre & Pianta, 2001; Hughes, Gleason, & Zhang, 2005; Saft & Pianta, 2001; Murray, Wass, & Murray, 2008). This may be related in part to students'

problematic behavior (Cameron et al., 2005). Studies have shown that teachers react differently to students' behavior and this may result in an inaccuracy of rating minority students' academic abilities as compared to White students (Murray, 1996; Partenio & Taylor, 1985). The academic expectations for Black students may be lower across all social and economic backgrounds in comparison to their White and Asian counterparts, although these studies did not consider students' actual achievement levels (Dusek & Joseph, 1983; Hale, 2001; Kunjufu, 2002).

#### *Teachers' Perceptions of Gender*

There is an expanding body of research that examines the gender differences among males and females; studies have shown that there are significant gender differences in reading and mathematics, showing higher reading scores for females and higher mathematic scores for males (Fan, 2011; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Jussim & Eccles, 1992; Tiedemann, 2002). Typically, teachers do not encourage mathematic and science skill development for females and have higher expectations for females in subjects such as reading (Helwig, Anderson, & Tindal, 2001; Hyde & Lindberg, 2007; Jacobs et al. 2002). With regard to students' behavior, research has shown a repeated occurrence of what Younger, Warrington & Williams (1999) described as 'Feminizing Classroom Environments.' In these situations, boys' behavioral and emotional expressions may be overly punished and boys may be viewed by their teachers as more inclined to provoke confrontation (Yonger et al., 1999). Again, teachers generally have fairly accurate perceptions of students when comparing students to direct measures of achievement; bias may be more likely to arise when direct measures are not present (Meisel et al., 2001).

#### *Teachers' Perceptions within School Contexts (poverty)*

Dusek and Joseph's (1983) meta-analysis of 17 studies that examined social class showed a moderate effect size when examining the differences of teachers' expectations as it related to student SES. The study showed that approximately 64% of middle-class children were expected to perform better than lower-class students (Duske & Joseph, 1983). The study further identified that social class may have influenced teacher expectancies, citing the findings of Mazer's (1971) study that employed multiple SES groupings and reported that lower levels of SES may lead to lower teacher expectations



of academic competence. It has been observed that students require different *types* of instruction (challenging, stimulating, and demanding vs. encouraging and appraisal of success) depending on the students' socio-economic status (high vs. low SES respectively; Brophy 1986). These different needs for various types of instruction have been shown to impact the teacher-rated teacher-child relationship (Ewing & Taylor, 2009). Since the primary purpose of this study is to examine teachers' perceptions of students and subsequent effects as they relate to race and gender, SCHFARL (school percentage of students qualifying for free and reduced lunch) was utilized to control for SES as a moderator of teachers' perceptions.

*Gaps in research field Old vs. New*

Research on teachers' perceptions of students received substantial attention in the 1970s and 1980s, then again between 2003-2007. Through the span of the literature, there have been conflicting findings. Whereas seminal studies looked primarily at teachers' expectations of students without taking into account student characteristics (direct measure of student academic, social, behavioral levels), the later literature attempted to incorporate actual student levels of achievement (Decker, Dona, & Christenson, 2007; Duske & Joseph, 1983; Jaeger, & Freijo, 1974; Tenenbaum & Ruck, 2007). Dusek and Joseph's (1983) meta-analysis of teacher expectancies examined 77 studies that examined teachers' perceptions of students based on several aspects; physical attractiveness, gender, social class (SES), and race. After computing *d* values for each, they discovered that teachers expected physically attractive students to perform better than their peers. They found that students' gender did not appear to influence teacher expectations for academic performance. There was a significant effect size when examining SES; middle-class children were expected to perform better than lower-SES students. And finally, White students were expected to out perform Black students academically (Dusek & Joseph, 1983).

Lee Jussim investigated the concept of teacher perception, specifically as teachers' perception related to students' achievement in the late 1980s, and early 1990s (Jussim, 1989; Jussim, 1991; Jussim & Eccles, 1992). Kolb and Jussim (1994) reported, "about 70 percent of the correlation among teacher expectations and student achievement represent[ed] accuracy, and the remaining 30 percent represent[ed] self-fulfilling

prophecies, perceptual biases, or both.” In this case, accuracy was the extent to which teachers’ perceptions predicted students’ achievement. Jussim and Eccles (1992) examined teachers’ perceptions of students’ academic ability and compared them to students’ final mathematic class grades and standardized mathematic achievement tests. They found that teachers’ perceptions were accurate and that a gender bias was not present (Jussim & Eccles, 1992). One study examined aspects of the validity of teachers’ perceptions that were based on the Work Sample System (WSS), a curriculum-embedded, performance assessment for preschoolers (Meisel et al., 2001). Meisel and colleagues (2001) found that when teachers were able to utilize direct measure of students’ achievement in order to make their “perceptions” or “assessment” of students, these assessments showed no significant difference when compared to standardized tests such as the *Woodcock-Johnson Psychoeducational Battery-Revised*.

A more recent meta-analysis, however, noted that studies in the 1980s tended to show a larger effect size than studies published during other decades ( $d = .47$ ) but overall studies conducted in the United States generally found that teachers favored White students over Black students with regard to academic competence ( $d = .53$ ; Tenenbaum & Ruck, 2007). This particular study, sought to expand upon the research of Duske & Joseph (1983). Where Dusek and Joseph (1983) found a small effect size ( $d = .11$ ) Tenenbaum and Ruck (2007) examined different moderators, such as geographic location, as factors that influenced teachers’ expectations for students’ academic achievement. This study also examined teachers’ perceptions of students with regard to students’ behavior by attending to teachers’ likelihood to refer students to negative (i.e., special education or disciplinary action) or positive assignments (i.e., gifted classes). Here too, they found that overall, teachers were more likely to assign higher frequencies of negative and lower frequencies of positive referrals to minority children compared to White children (Tenebaum & Ruck, 2007).

In addition to these shifts in perception from the older versus newer literature, there have been very few quantitative studies that accurately account for the effects of teachers’ perceptions of reading and behavior changes as a function of student race, gender, and school context. One argument made is that to best measure the accuracy of teachers’ perceptions of their students’ aptitude, an investigation must (a) use real

teachers and students and (b) accurately measure both teachers' ratings of student skills as well as directly measure student performance (Jussim & Eccles, 1992). A vast majority of studies conducted either (a) have teachers rate students based on photos or vignettes and/or (b) do not utilize an actual measure of academic achievement or behavior (for a review see both Dusek & Joseph, 1983 and Tenenbaum & Ruck, 2007). Many quantitative studies have significant limitations that confound the results. For example, in a more recent study examined teachers' perceptions of their actual students' behavior, the investigators did not consider direct measures of problematic behavior (Decker et al., 2007). Here too, not only were direct measures missing but a noted limitations of their study was the need for more sophisticated statistical analyses such as hierarchical linear modeling to take into account the nested structure of the data (Decker et al., 2007).

## RATIONALE

This study seeks to fill in the gaps in the extant research by providing a quantitative examination of today's teachers' perceptions of their students' academic competence and problematic behavior, how accurate these judgments appear to be, and whether teachers' judgments (perceptions and expectations of students) are systematically affected by students' gender and/or race. The following research questions are posed:

1. To what extent do teachers' judgments of students' academic competence and problematic behavior agree with direct assessments of reading and self-regulation?
2. Controlling for students' assessed reading and self-regulation skills, to what extent are teachers' judgments affected by students' race and gender. And, if they are affected by students' race and/or gender, to what extent are these differences reflected in the direct assessments of students' skills?
3. To what extent do teachers' judgments of their students' academic competence and problematic behavior predict spring reading and self-regulation outcomes, controlling for fall scores and SCHFARL?

It is hypothesized that (1) teachers will be fairly accurate in their judgment of their students' skills and that the *Teacher- Social Skills Rating System (SSRS)* and student scores will be highly correlated and that students' scores will predict a large proportion of the variability in teachers' judgment. Another prediction is that teachers will be more accurate in judging students' academic competence than behavior because they had access to standardized assessments for reading but not behavior; (2) it is anticipated that because teachers had access to assessment of students' reading skills, there will be no significant effect of gender or race on teachers' judgment of academic competence. There may, however, be some effect on judgments of problematic behavior because they did not have access to assessments of self-regulation and the extant literature suggests that teachers tend to identify boys and, in particular, Black boys as having more behavior problems. (3) Based on the extant literature, it is hypothesized that teachers' judgments of students' academic competence and problematic behavior will predict spring outcomes over and above fall scores.

## METHOD

This study is part of a larger study on reading instruction (Connor et al., 2009) where teachers were randomly assigned to one of two treatment conditions. Either they were trained to implement individualized reading instruction based on assessment of students' language and reading skills or a vocabulary intervention following Beck, Perfetti, and McKeown (1982). Students were assessed on a battery of vocabulary and reading assessments in the fall, winter, and spring and self-regulation skills in the fall and spring. In addition, teachers completed the *Social Skills Rating System* (SSRS; Gresham & Elliott, 1990), which asks them to rate each of their students' academic competence and behavioral problems (see Methods for complete description of assessments). Vocabulary and reading assessment results were provided to teachers in both conditions in the fall, winter, and spring after assessments were completed. They completed the SSRS in the winter. Thus, the teachers had access to fall reading assessments prior to completing the SSRS; they were not provided the results of the self-regulation assessments. Of note, there were no significant differences between groups on reading or vocabulary scores, although in average students showed significant gains from fall to spring.

### *Participants*

*Schools.* Eight schools from a North Florida district participated in the 2007-2008 second grade study. The schools varied with regard to SES, represented by overall school levels of students qualifying for the governmental Free and Reduced Lunch (School FARL) program to assess school context. This ranged from 4% to 96% with a mean of 38%.

*Teachers.* Of the forty teachers, there was only one male teacher and the remaining thirty-nine were female. About 77% of the teachers were White, 17% Black, 4% Latino, and 2% Asian/Pacific Islander. The total number of years of teaching experience ranged from first year to veteran teachers with between twenty and thirty-five years of teaching experience. Of the teachers in this study, 75% held a bachelor's degree in elementary education, 22% obtained a masters degree, and 1 held a Ed.D. in early childhood. While teachers in the study were placed in either treatment or control (vocabulary intervention) groups, preliminary analyses indicated that this distinction was

not significant in effecting teachers' perceptions of students, thus it was not included in statistical models.

*Students.* The second graders were part of a larger sample of 647 students. Students of multiracial, Hispanic, or Asian descent were not included in the study due to the small numbers in this particular sample. 125 African American (Black) boys, 127 Black girls, 159 Caucasian (White) boys, and 159 White girls participated (n =570).

### *Measures*

Measures employed in this study include the *Teacher Social Skills Rating System* survey (Gresham & Elliott), the Passage Comprehension subtest of the *Woodcock-Johnson Tests of Achievement-III* (WJ PC, Mather and Woodcock, 2001), and the *Head-Toes-Knees-Shoulders* self-regulation task (Cameron et al., 2008).

*Teachers-Social Skills rating System (SSRS).* Teachers completed the *Social Skills Rating System (SSRS)* in the winter term following the holiday break, and before spring break. The SSRS is a norm-referenced assessment developed by Frank M. Gresham, and Stephen N. Elliot (1990). The assessment is designed to provide a comprehensive picture of students' social behaviors in reference to other typically-developing students. Since the scale allows the teachers to rate the occurrence and importance of specific social skills, problem behaviors, and academic competence, the teachers' perception of that child is an important consideration. The assessment measures social behaviors such as cooperation, empathy, assertion, self-regulation, and responsibility. The assessment went through three levels of reliability testing: internal consistency (coefficient alpha), test-retest, and interrater. The coefficient alpha reliabilities for the academic competence and problematic behaviors for the teacher form of the SSRS is .95 and .87 respectively (1 being perfect consistency). As it relates to validity, the assessment underwent content validity, criterion-related validity, and construct validity tests. All validity tests yield a correlation of .50 or higher (Gresham & Elliott, 1990). For purposes of this study, the Academic Competence (AC) and the Problematic Behavior (PB) scales were used because direct measures of students' skills for this dataset were available for these constructs. Higher scores on the Academic Competence scale indicate stronger competence whereas higher scores on the Problematic Behavior scale indicate more behavior problems.

*Woodcock-Johnson Tests of Achievement-III Passage Comprehension.* Students' language and literacy skills were assessed in the fall, winter, and spring of each school year using multiple subtests from the *Woodcock-Johnson Tests of Achievement-III* (WJ, Mather and Woodcock, 2001). This study utilized the WJ Passage Comprehension subtest administered with a reliability of .73 for the age group. The assessments were administered individually to the students by trained researchers. The PC subtest, required students to complete a cloze procedure; students were asked to read a short passage and provide the missing word.

*Head-Toes-Knees-Shoulders Task.* Each student received the expanded Head-Toes-Knees-Shoulder task (Cameron et al., 2008) as a measure to assess self-regulation directly. While the original assessment was designed to assess preschool children it has since been adapted. In the revised Head-Toes-Knees-Shoulders Task (HTKS) a trained researcher first asked students, "When I say to touch your head, touch your head." Once they were habituated to the task, the students were then asked to do the opposite of what the tester asked, "When I say to touch your head, I want you to touch your toes." Each child was given 10 commands in which they were expected to do the opposite thing. They then repeat the task with their knees and shoulders ("When I say to touch your shoulders, I want you to touch your knees."). Again, ten more items were administered that combined the head-toes and knees-shoulders components. In the alternate version of the task, the students started off with their knees and shoulders, and then moved onto their head and toes. Children received two points for a correct response, one point if they began to respond incorrectly but spontaneously corrected their response (self-correction) and an incorrect response did not warrant any points. Using Cronbach's alpha, the examiners achieved inter-rater reliability of .95 for self-corrections, .98 overall.

## RESULTS

Overall, students' scores on the passage comprehension (PC) subtest improved during the school year as expected. The standard scores remained relatively constant from fall to spring (fall mean standard score = 99.81, spring mean standard score = 99.19; see Table 1). Students showed an overall improvement on the HTKS measure of self-regulation (fall mean raw score = 36.53, spring mean score = 37.46). Teacher rated Academic Competence (AC) and Problematic Behavior (PB) scores were close to standardized means (100) although academic competence scores were lower.

*Research Question 1:* To what extent do teachers' judgments of students' academic competence and problematic behavior agree with direct assessments of reading and self-regulation?

To address the first hypothesis that teachers' perceptions will correlate with student scores, zero order correlations were performed. This examined the significance and magnitude to which each construct on the SSRS correlated with student measures of academic competence (comprehension) and problematic behavior (self-regulation). Correlation results showed that the teacher rated measures significantly correlated with students' scores (see Table 2). More specifically, teacher rated AC correlated with fall and spring levels of comprehension ( $r = .625$  and  $r = .560$  respectively). Teacher rated PB weakly correlated with both fall and spring HTKS scores ( $r = -.165$ ,  $r = -.157$ ; keeping in mind that higher scores on the PB subscale indicate more severe behavior problems).

Hierarchical Linear Modeling (HLM; Raudenbush & Bryk, 2002) was then used due to the nested structure of the data (children nested within classrooms, nested within schools). The models were built systematically with the outcome,  $Y_{ij}$ , the predicted teacher academic competence or problematic behavioral score for child  $i$  in classroom  $j$ . HLM results revealed that students' fall PC scores significantly predicted teacher rated academic competence ( $p < 0.001$ ) and that teachers had higher perceptions of students with higher fall comprehension scores (see Table 3). The school context, as measured by SCHFARL, was not a significant predictor of teacher rated AC. Pseudo-R squared values were computed by utilizing variances from final model (including fall score) and the model with all variables except fall score (Kreft & de Leeuw, 1998). The academic competence pseudo-R squared value (.40201) revealed that fall scores explained about



40% of the variance in teacher ratings. The intra-class correlation (ICC) which is the between classroom variance explained, was computed using the unconditioned model (ICC = .0276). This means that 2.76% of the variance explained falls between classrooms.

Fall self-regulation, as measured by HTKS scores, significantly predicted teachers' perceptions of student's problematic behavior ( $p = 0.042$ ; see Table 4). Teachers perceived students with lower self-regulating abilities as being more problematic. As it relates to problematic behavior, however SCHFARL did significantly predict teachers' perceptions of student behavior. Children from schools with higher SCHFARL (higher percentage of students qualifying for free/reduced lunch) were more likely to received higher teacher rated PB scores (i.e., more problematic behavior). For self-regulation, the computed pseudo-R squared variance of .0128 indicates that fall HTKS explained only about 1.28% of the variability in teachers' ratings. The ICC using the unconditioned model was .0735.

*Research Question 2: Controlling for students' assessed reading and self-regulation skills; to what extent are teachers' judgments affected by students' race and gender. And are these race and gender differences reflected in the direct assessments?*

In order to answer the second research question, HLM models were again systematically built. The first model utilized teacher rated academic competence scores as the outcome measure. Not only were fall scores entered as a possible predictor of teachers' perceptions, but students' race (African American = 1) and gender (boy = 1) were included at the student level (level 1). The interaction term AA x Boy, where African American boys were coded 1 and all others coded 0, was added at level 1 to test whether there was a race x gender interaction. The SCHFARL variable was added at the classroom level.

Results were complex and showed gender by race interaction effects on teachers' judgments of students' academic competence (see Table 5, Figure 1). Overall, teachers perceived White boys as having higher academic competence than Black boys and than girls, regardless of race. This interaction effect showed that teachers perceive Black boys as having lower academic competence than their peers. Fall PC continued to be a

significant predictor of teacher rated AC, while SCHFARL did not significantly affect teachers' perceptions of students' academic competence.

In a second model, I examined whether there were actually gender and race interaction effects on PC gains (see Table 6). Results showed that neither race nor gender significantly predicted students' comprehension gains. Moreover, schools with lower percentages of students qualifying for FARL showed significantly greater gains on the spring PC test than did schools with higher SCHFARL. Fall PC scores significantly predicted students' spring PC scores.

To examine teacher ratings of problematic behavior, teacher PB scores were used as the outcome variable,  $Y_{ij}$ . The model controlled for individual fall levels of student self-regulation. Here too student race, gender, and race by gender interaction (AA x Boy) variables were used as predictors to see if race and gender had an effect on teachers' perceptions. SCHFARL was controlled for at the classroom level. Results suggest (see Table 7) that neither students' gender nor race made a significant difference in influencing teachers' ratings of PB. There was no significant race x gender interaction effect. There was a trend that students' fall self-regulation scores influenced teacher ratings ( $p = .055$ ), teachers generally rated students with higher HTKS scores as having lower levels of problematic behavior. School FARL significantly predicted teachers' perceptions of students' behavior. In general, teachers rated levels of PB as higher at higher poverty schools.

To examine direct assessments of students' self-regulation growth, a model utilizing students' spring HTKS scores as the outcome variable was built. Students' fall HTKS scores, race, gender, and the race by gender interaction variables were added at the student level and SCHFARL at the classroom level. Direct measures of students' self-regulation revealed that students with higher levels of fall self-regulation obtained higher spring HTKS scores (see Table 8, Figure 2). Black students generally had significantly weaker spring self-regulation scores than did White students. Students' gender did not significantly affect spring self-regulation levels. There was not a significant race by gender interaction effect. Also, SCHFARL did not significantly predict spring HTSK scores.

*Research Question 3:* To what extent do teachers' judgments of their students' academic competence and problematic behavior predict spring reading and self-regulation outcomes, controlling for fall scores and SCHFARL?

To answer the final research question, students' spring PC and spring HTKS scores were set as the two outcome variables. In the first model, spring passage comprehension scores were utilized as the outcome variable,  $Y_{ij}$ . Students' fall PC scores, as well as teacher rated AC and PB were utilized as predictor variables in attempts to see if teachers' judgments of students predicted students' gains over and above students' fall scores. The second model utilized students' spring HTKS scores as the outcome variable, again utilizing direct fall HTKS scores as well as teacher rated AC and PB scores as predictor variables. In both models race, gender, and the race by gender interaction term were included at the child level; also the school context was taken into consideration by controlling for SCHFARL at the classroom level.

Teacher rated AC scores positively and significantly predicted comprehension gains above and beyond other variables (see Table 9, Figure 3). Students with higher teacher rated AC generally achieved higher spring comprehension scores. Teacher rated problematic behavior was not a significant predictor of comprehension gains. Fall PC scores positively and significantly predicted of spring comprehension gains; students with higher fall PC scores showed greater comprehension gains. Neither race nor gender affected student gains; and there was no race by gender interaction effect. At the classroom level, SCHFARL was a significant predictor of gains (i.e., students at higher poverty schools showed weaker comprehension gains).

In examining behavior (see Table 10), teacher rated PB was not a significant predictor of self-regulation gains. When controlling for fall scores, teacher rated AC scores were a significant predictor of spring self-regulation levels above and beyond teachers' perceptions of students' behavior. Students with higher teacher rated AC levels showed higher levels of self-regulation on spring measures. Students' fall HTKS scores were a significant predictor of spring self-regulation levels. Neither students' race nor gender significantly predicted spring self-regulation levels as measured by the HTKS task; and there was no race by gender interaction effect. School poverty (SCHFARL) was not a significant predictor of self-regulation gains.

## DISCUSSION

The purpose of this study was to examine teachers' perceptions of students' academic competence and problematic behavior and whether there were any significant differences in these perceptions with regard to students' race and gender. The first research question was aimed at investigating whether teachers' ratings, as measured by the *Teacher- Social Skills Rating System (SSRS)*, were associated with their students' reading and self-regulation when assessed directly. It was hypothesized that teachers would accurately rate their students' academic competence and problematic behavior subscales of the SSRS and hence would generally agree with measures of student comprehension and self-regulation. It was also hypothesized that access to students' fall scores would improve the accuracy of teachers' judgments of students' academic competence. In addition, it was predicted that teachers would be more accurate in judging students' academic competence than their behavior because they had access to standardized assessments for comprehension but not behavior. Both of these hypotheses were supported to some extent. Correlations and HLM results confirmed the hypothesis that teacher-rated levels of academic competence and behavior were related to students' actual scores on comprehension and self-regulation tasks respectively. However, the associations were moderate for academic competence and small for behavior. Keeping in mind that measures of students' self-regulation were not provided to teachers whereas reading scores were, perhaps this is why fall self-regulation scores explained less of the variance in teachers' judgments of students' problematic behavior than reading comprehension. This reaffirmed research suggesting that teacher perceptions are more likely to be accurate when direct assessments are utilized but ratings made without direct measures of student achievement may lead to misjudgments (Begeny et al., 2008; Feinberg & Shapiro, 2003; Hoge & Coladarci, 1989; Jessim & Eccles, 1992; Meisel et al., 2001). At the same time, reading scores explained less than half the variance in teachers' rating of academic competence, which was lower than anticipated. Thus other factors than actual test scores appear to influence teachers' estimations of their students' academic competence.

The next research question sought to examine to what extent teachers' judgments were affected by students' race and gender. I also examined whether these perceptions

actually agreed with the direct assessment of students' skills. It was hypothesized that because teachers had access to the fall assessment of students' reading skills, there would be no significant effect of gender or race on teachers' judgment of academic competence. Conversely, it was hypothesized that since teachers did not have access to assessments of self-regulation, their judgments of problematic behavior might show differences identifying boys and, in particular, Black boys as having more behavior problems. Our hypothesis was not confirmed with regard to comprehension. Even when teachers' had access to students' comprehension scores they rated White boys as having significantly higher levels of academic competence compared to Black boys and girls (both white and black) with Black boys rated least academically competent. Yet direct measures of students' comprehension revealed neither race nor gender differences in reading skill gains, an important marker of academic competence. This suggests that a gender bias favoring White boys, and a bias against Black boys and, perhaps girls, may exist for these teachers.

In contrast, and unexpectedly, students' race and gender did not significantly affect teachers' judgments of students' behavior. This suggests that even though measures of students' self-regulation were not provided to teachers, teachers formed judgments of students' problematic behavior level without being significantly influenced by students race or gender. Indeed they may have overestimated Black students' self-regulation because, in general, Black students showed significantly weaker gains in self-regulation than did White students. One possible explanation for the smaller gains in self-regulation observed for Black students may be related to the stress of poverty (Blair, 2002). In this sample, Black children were more likely to attend higher poverty schools.

This leads to our third research question that sought to examine whether it mattered that teachers' rating of their students' academic competence was generally affected by students' race and gender by examining the extent to which teachers' judgments of their students' academic competence and problematic behavior predicted spring reading and self-regulation gains. Whereas it was hypothesized that teacher rated problematic behavior would affect students' gains in reading and self-regulation, results revealed that teachers' ratings of problematic behavior did not significantly affect students' scores. However, overall, teachers' perceptions of their students' academic

competence mattered. Students whose teachers rated them as more academically competent made significantly greater gains on both passage comprehension and self-regulation measures than students whose teachers rated them as less academically competent even when taking students' actual fall test scores into account. This suggests that teachers' perceptions of students' achievement may have important implications for students' overall success in school academically and socially. Had teachers' ratings of students not predicted their reading and self-regulation gains, then teachers' generally inaccurate perceptions of Black boys would not have been particularly problematic. However, according to these results, teacher perception of academic competence appears to affect students' achievement and may present one possible reason for the test score gap (Jencks & Phillips, 1998)

This study examined teachers' perceptions of student in the 2007-2008 school year. With the No Child Left Behind educational policy reform five years in effect, one would expect teachers to be able to make fairly accurate ratings of their students' academic competence. However, these results indicate that teachers were only fairly accurate in rating academic competence even though they had access to the reading scores used here as well as other assessments such as DIBELS (Good & Kaminski, 2002) and the Stanford Achievement Tests. An argument can be made that judgments of academic competence tap more than just reading achievement, which might be why the reading score explained only about 40% of the variance. Teachers may include judgments of mathematics competence and of motivation and engagement in these ratings, as well as other hard to measure student qualities. Nevertheless, results underscore the importance of teachers having access to reliable and valid assessments of students' performance. Teachers' ratings generally agreed more strongly with students' assessed reading scores (to which teachers had access) and explained a higher proportion of the variance than their self-regulations scores (to which teachers did not have access). Coupling this with the finding that teachers' ratings of students' academic competence predicted reading and self-regulation skill gains shows that training and use of valid and reliable assessments that influence teachers' perceptions of students may improve student achievement overall.

Teachers' perceptions are likely important for a number of reasons. Teachers may

provide better and richer learning opportunities to those students who they perceive to be more likely to benefit from and participate in these opportunities; they may fail to provide instruction that is appropriate for students based on their skill level, which research shows affects achievement (Connor, Morrison, Fishman, et al., 2011; Connor, Morrison, Schatschneider, et al., 2011). It is also possible that teachers' inaccurate perceptions of their students can be transmitted to students; inaccurate perceptions are likely to undermine students' self-efficacy and motivation (Desert, Preaux, & Jund, 2009; Guthrie, McRae, & Klauda, 2007; Wigfield & Eccles, 1989). In this study, it is of concern that the most inaccurate (and lowest) teacher ratings were for African American boys, who by any standard are already at risk for academic underachievement.

Consistent findings in this study concern the effect of school context, specifically the percentage of students in the school living in poverty as indicated by eligibility for the free and reduced lunch program. Students at higher poverty schools made smaller gains (i.e., residualized change) in reading comprehension from fall to spring. Teachers' tended to rate students at higher poverty schools as having more problematic behavior although school poverty was not associated with students' self-regulation gains. Such findings are not new and are well documented in research conducted in areas of the country (Duncan et al., 2007). Early research has shown that students' level of poverty affects teachers' expectations (Duske & Joseph, 1983). This study suggests that even when using direct assessments of students' achievement there are causes for concern, nonetheless.

### *Limitations*

Whereas this study replicates and extends extant research on teachers' perceptions, there are a few limitations. This sample did not have direct measures of students' social skills to analyze teachers' perceptions of social skills. It might have been beneficial to see if teachers' perceptions of students' social skills play any significant role in influencing students' gains. One limitation that pertains to this particular sample is the fact that there was a weak correlation between students' self-regulation as measured by the HTKS task and teacher rated problematic behavior. Also, fall HTKS scores explained very little of the variance in teacher rated problematic behavior. For these reasons, the degree to which teacher rated problematic behaviors scores influence students' self-

regulation gains may not accurately reflect the importance of teachers' perceptions on students' behavior. It may be more useful to observe students and teachers in the classroom but that was beyond the scope of this study. It is possible that observations students' behaviors, such as amount of time on-task (engaged in instruction-based activities) vs. off-task, or the amount of time the student displays disruptive behavior, may be a more informative way to analyze students' behavior. It was also beyond the scope of this study to examine the classroom learning environment. Characteristics of the classroom environment, such as teacher-effectiveness, teacher-warmth and responsiveness, and classroom management, could have all impacted students' gains. In addition, there may be trends in these factors based on school context. Follow up studies could possibly analyze teachers' judgments of students if measures of self-regulation or behavior were provided to teachers prior to evaluating students' problematic behavior on a normed measure such the SSRS.

### *Implications*

Results of this study suggest that training for teachers to help them analyze how exactly they are forming perceptions or expectations of their students is needed. When teachers' do use direct measures of student achievement, they are more likely to make accurate judgments of students. This study shows the need for teachers to utilize direct measures prior to making judgments of students, particularly for Black boys. Teachers' perceptions of students may be adversely impacted by various school contexts, such as school which higher levels of poverty. This suggests a need for teachers to evaluate whether factors such as school or student socio-economic status come into play (or are not considered) when making judgments related to students' capabilities. Thus, future research should aim to take a closer look at school context and teachers' perceptions.

The results of this study clearly reveal that teachers' perceptions of students are important when considering students' learning. Whereas research has shown that that teachers' perceptions shape student attitudes, student interaction, and student learning opportunities (Hamre & Pianta, 2001), this study suggests that teachers' perceptions, specifically perception of students' academic competence, influence students' reading and self-regulation gains. In addition, when teachers have access to assessments of students' achievement, their judgments of students have been show to predict fall to



spring growth in students. For these reasons we should seek to improve the accuracy of teachers' perceptions of student.

While the narrowing the academic achievement gap tends to be an important topic on the agenda for educational reform, this task might be best tackled if research drives both policy reform and effective educational intervention. Policies in no child left behind have made direct assessments of students' achievement more readily available to teachers. It had been hoped that with this increased access, teachers perceptions of students would be more accurate and not subject to biases influenced by their students' race and gender. However, this was not entirely the case in this North Florida school district. This study suggests that educational interventions aimed at increasing teachers' use of direct measures of students' academic and behavioral achievement and honest appraisal of race and/or gender prejudices might be effective in improving teacher efficacy and student achievement. If teachers can become experts in accurately judging their students' academic competence and effectively using valid and reliable assessments of students' academic and social/behavioral skills, teachers may become more attentive to and more mindful of the types of judgments and expectations they form about their students rather than be influenced by non-malleable student characteristics such as family poverty, gender and race.

APPENDIX

Table 1  
Descriptives

Variable	N	Mean	SD	Minimum	Maximum
African American (AA)	647	0.38	0.48	0	1
Girls	647	0.5	0.5	0	1
Boys	647	0.5	0.5	0	1
AA x Boy	647	0.19	0.39	0	1
Fall HTKS Raw Score	356	36.53	5.02	0	40
Spring HTKS Raw Score	168	37.46	3.32	17	40
Fall WJ PC Standard Score (SS)	619	99.81	11.42	51	132
Spring WJ PC SS	583	99.19	11.4	3.2	125
TR Problematic Behavior SS	497	99.88	14.62	85	141
TR Academic Competence SS	496	96.14	14.01	60	115
SCHFARL	40	38	27.42	4	96

*Note.* Standard Score (SS)/normed mean = 100, SD = 15. HTKS is Head-Toes-Knees-Shoulder self-regulation task. PC is Woodcock-Johnson’s passage comprehension subtest. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

Table 2

*Correlations Table between Teacher Rated Variables and Child Outcomes*

Variable	1	2	3	4	5	6	7
1. Teacher Rated Social Skills	-						
2. Teacher Rated Problematic Behavior	.763**	-					
3. Teacher Rated Academic Competence	.633**	-.548**	-				
4. Fall WJ - PC Standard Score (SS)	.417**	-.346**	.625**	-			
5. Spring WJ - PC SS	.365**	-.316**	.560**	.730**	-		
6. Fall HTKS Raw Score	.178**	-.165**	.254**	.268**	.222**	-	
7. Spring HTKS Raw Score	.192*	-.157*	.284**	.208**	.230**	.219**	-

*Note:* HTKS is Head-Toes-Knees-Shoulder self-regulation task. PC is Woodcock-Johnson's passage comprehension subtest.

\*\* . Sig. at the 0.01 level (2-tailed).

\* . Sig. at the 0.05 level (2-tailed).

Table 3

*Hierarchical Linear Model (HLM) Results for Teacher Social Skills Rating System (SSRS) Academic Competence Scores, Controlling for Fall Reading Scores*

Fixed Effect	Coefficient	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	96.434	0.504	191.257	38	0.000
Child Level Variables					
Fall Passage Comprehension	0.727	0.037	19.624	479	0.000
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	-0.021	0.017	-1.278	38	0.209
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	1.205	1.451	38	44.006	0.232
Level-1, R	10.773	116.057			
<i>Deviance</i>	3669.919				

*Note.* Variables centered at the grand mean of the sample. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

Table 4

*Teacher Social Skills Rating System (SSRS) Problematic Behavior Scores, Controlling for Fall Self-Regulation Scores*

Fixed Effect	Coefficient	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	101.307	0.805	125.777	38	0.000
Child Level Variables					
Fall HTKS	-0.344	0.169	-2.033	347	0.042
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	0.123	0.03	4.060	38	0.000
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	2.489	6.198	38	48.105	0.126
Level-1, R	13.978	195.374			
<i>Deviance</i>	2849.84				

*Note.* Variables centered at the grand mean of the sample. HTKS is Head-Toes-Knees-Shoulder self-regulation task. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

Table 5

*Teacher Social Skills Rating System (SSRS) Academic Competence Scores, Controlling for Fall Reading Scores- Examining Teacher Perception by Race and Gender*

Fixed Effect	Coefficient	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	96.108	1.07	89.793	38	0.000
Child Level Variables					
Fall Passage Comprehension	0.716	0.039	18.339	476	0.000
African American (AA)	0.023	1.579	0.014	476	0.989
Boy	3.346	1.297	2.581	476	0.010
AA x Boy Interaction	-6.572	1.806	-3.639	476	0.001
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	0.008	0.018	0.439	38	0.663
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	1.103	1.217	38	42.048	0.299
Level-1, R	10.616	112.692			
<i>Deviance</i>	3646.692				

*Note.* Variables centered at the grand mean of the sample. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

Table 6

*Spring Woodcock-Johnson III (WJ) Passage Comprehension Standard Score - Race, Gender, and Race x Gender Differences*

Fixed Effect	Coefficient	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	98.863	0.838	117.974	38	0.000
Child Level Variables					
Fall Passage Comprehension	0.696	0.037	18.659	568	0.000
African American (AA)	-0.344	1.041	-0.331	568	0.741
Boy	0.577	0.81	0.712	568	0.476
AA x Boy Interaction	-0.943	1.017	-0.927	568	0.355
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	-0.045	0.014	-3.272	38	0.003
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	0.958	0.918	38	44.884	0.205
Level-1, R	7.641	58.395			
<i>Deviance</i>		3973.049			

*Note.* Variables centered at the grand mean of the sample. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

Table 7

*Teacher Social Skills Rating System (SSRS) Problematic Behavior Scores, Controlling for Fall Self-Regulation Scores- Examining Teacher Perception by Race and Gender*

Fixed Effect	Coefficient	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	98.317	1.263	77.827	38	0.000
Child Level Variables					
Fall HTKS	-0.329	0.171	-1.924	344	0.055
African American (AA)	3.553	2.457	1.446	344	0.149
Boy	2.147	1.878	1.143	344	0.254
AA x Boy Interaction	2.542	3.213	0.791	344	0.429
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	0.079	0.037	2.140	38	0.039
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	2.603	6.778	38	48.435	0.120
Level-1, R	13.78	189.896			
<i>Deviance</i>	2830.013				

*Note.* Variables centered at the grand mean of the sample. HTKS is Head-Toes-Knees-Shoulder self-regulation task. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.



Table 8

*Spring Head-Toes-Knees-Shoulders (HTKS) Raw Scores/Self-Regulation Levels - Race, Gender, and Race x Gender Effects*

Fixed Effect	Coefficient	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	38.104	0.264	144.553	27	0.000
Child Level Variables					
Fall HTKS	0.121	0.044803	2.69	132	0.008
African American (AA)	-1.695	0.776	-2.186	132	0.030
Boy	-0.039	0.414	-0.094	132	0.926
AA x Boy Interaction	1.169	1.181	0.99	132	0.324
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	-0.003	0.008	-0.374	27	0.711
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	0.063	0.004	27	33.783	0.172
Level-1, R	3.296	10.865			
<i>Deviance</i>	723.153				

*Note.* Variables centered at the grand mean of the sample. HTKS is Head-Toes-Knees-Shoulder self-regulation task. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

Table 9

*Spring Passage Comprehension Standard Scores Effect of Teacher SSRS Perceptions*

Fixed Effect	Coefficien				
	t	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	98.859	0.952	103.793	38	0.000
Child Level Variables					
Teacher Rated Academic Competence	0.135	0.039	3.436	458	0.001
Teacher Rated Problematic Behavior	0.01	0.027	0.362	458	0.718
Fall Passage Comprehension	0.603	0.052	11.563	458	0.000
African American (AA)	-0.586	1.173	-0.499	458	0.618
Boy	0.151	0.966	0.156	458	0.877
AA x Boy Interaction	0.245	1.214	0.202	458	0.840
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	-0.063	0.018	-3.602	38	0.001
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	1.306	1.706	38	50.164	0.089
Level-1, R	7.908	62.529			
<i>Deviance</i>	3268.04				

*Note.* Teacher Rated Academic Competence and Problematic Behavior group mean centered. All other variables are grand mean centered. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

Table 10

*Spring Head-Toes-Knees-Shoulders (HTKS) Raw Scores – Effect of Teacher SSRS Perceptions*

Fixed Effect	Coefficient	SE	T-ratio	df	p-value
For Intercept1, $\beta_0$					
Intercept, $\gamma_{00}$	38.082	0.276	138.127	27	0.000
Child Level Variables					
Teacher Rated Academic					
Competence	0.038	0.017	2.246	128	0.026
Teacher Rated Problematic Behavior	0.022	0.016	1.424	128	0.157
Fall HTKS	0.102	0.039	2.607	128	0.011
African American (AA)	-1.615	0.829	-1.946	128	0.053
Boy	-0.079	0.418	-0.189	128	0.851
AA x Boy Interaction	1.219	1.226	0.995	128	0.322
Classroom Level Variables					
SCHFARL, $\gamma_{01}$	-0.005	0.008	-0.585	27	0.563
Final Estimations of Variance Components:					
Random Effect	SD	Variance	df	Chi-square	p-value
Intercept, $U_0$	0.065	0.004	27	33.858	0.17
Level-1, R	3.325	11.057			
<i>Deviance</i>	723.655				

*Note.* Teacher Rated Academic Competence and Problematic Behavior group mean centered. All other variables are grand mean centered. HTKS is Head-Toes-Knees-Shoulder self-regulation task. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

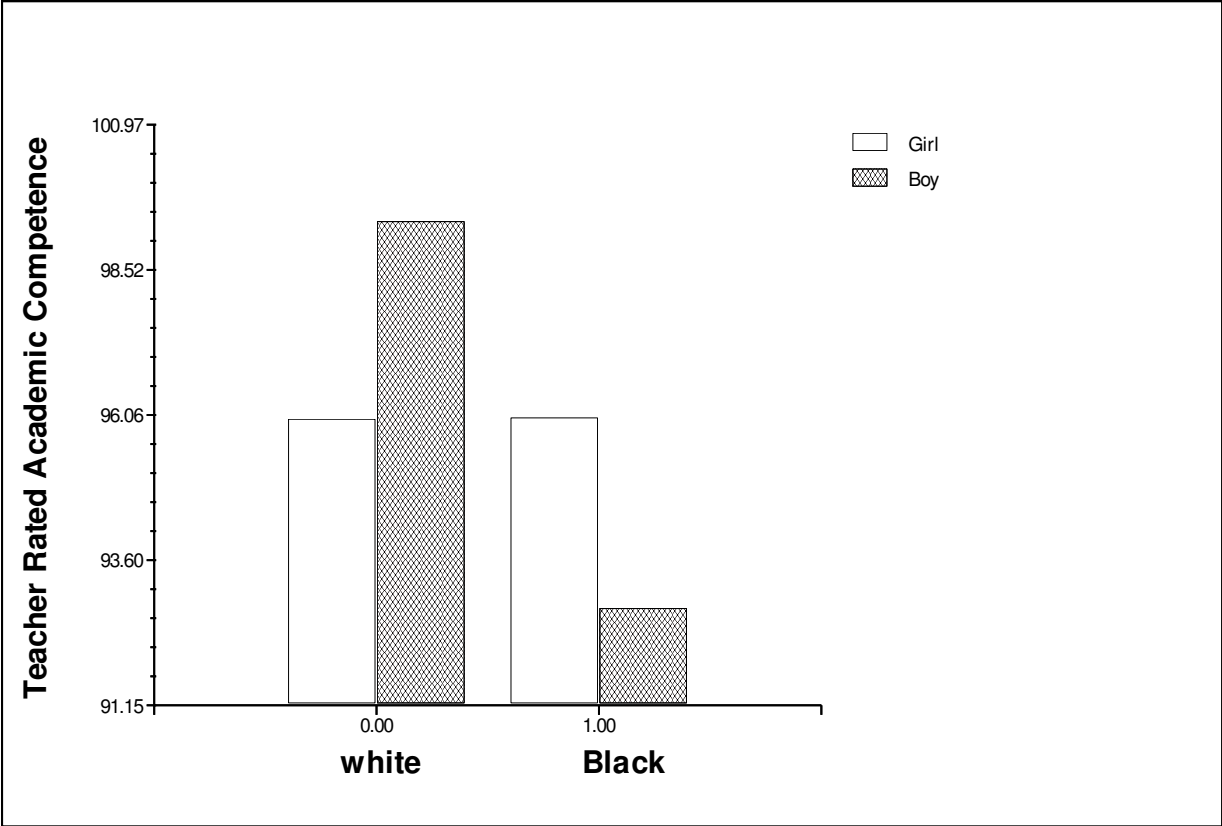


Figure 1. Teacher Social Skills Rating System (SSRS) Academic Competence Scores, Controlling for Fall Reading Scores

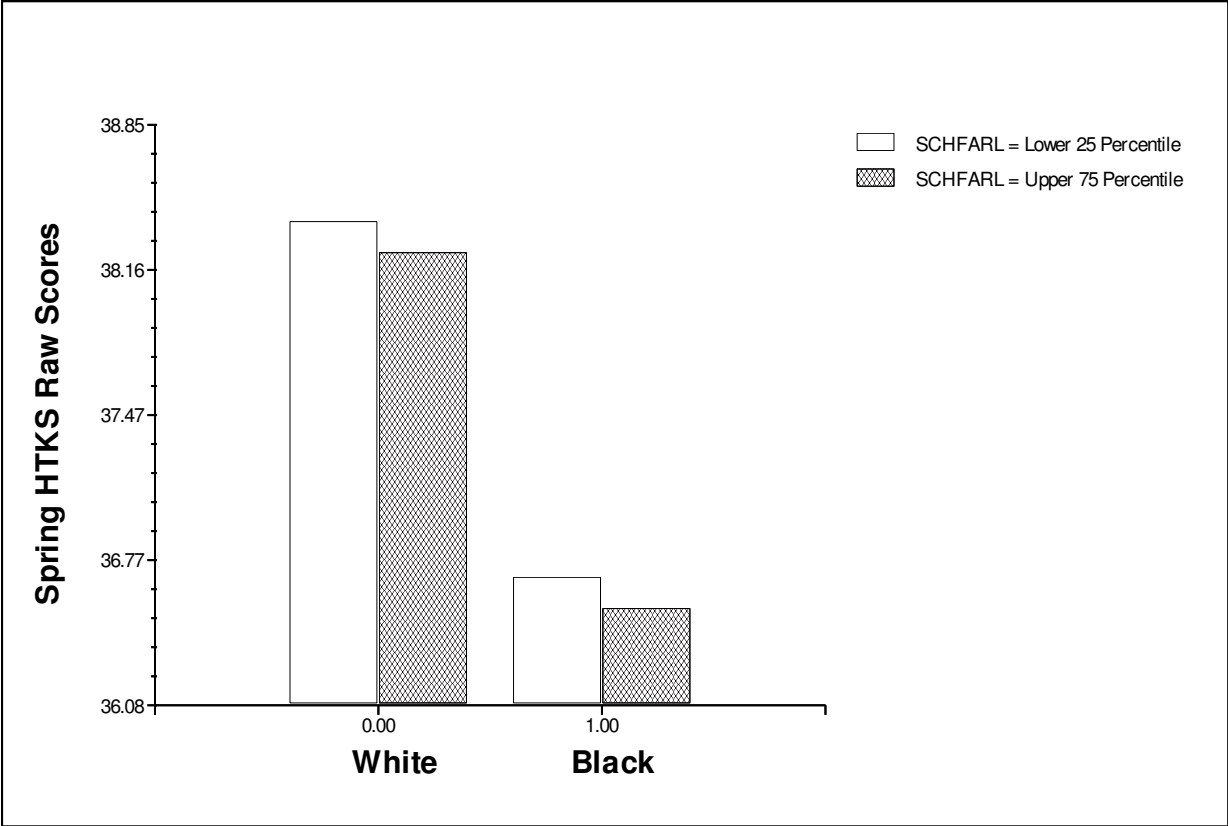


Figure 2. Spring Head-Toes-Knees-Shoulders (HTKS) Scores Controlling for Fall Scores. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

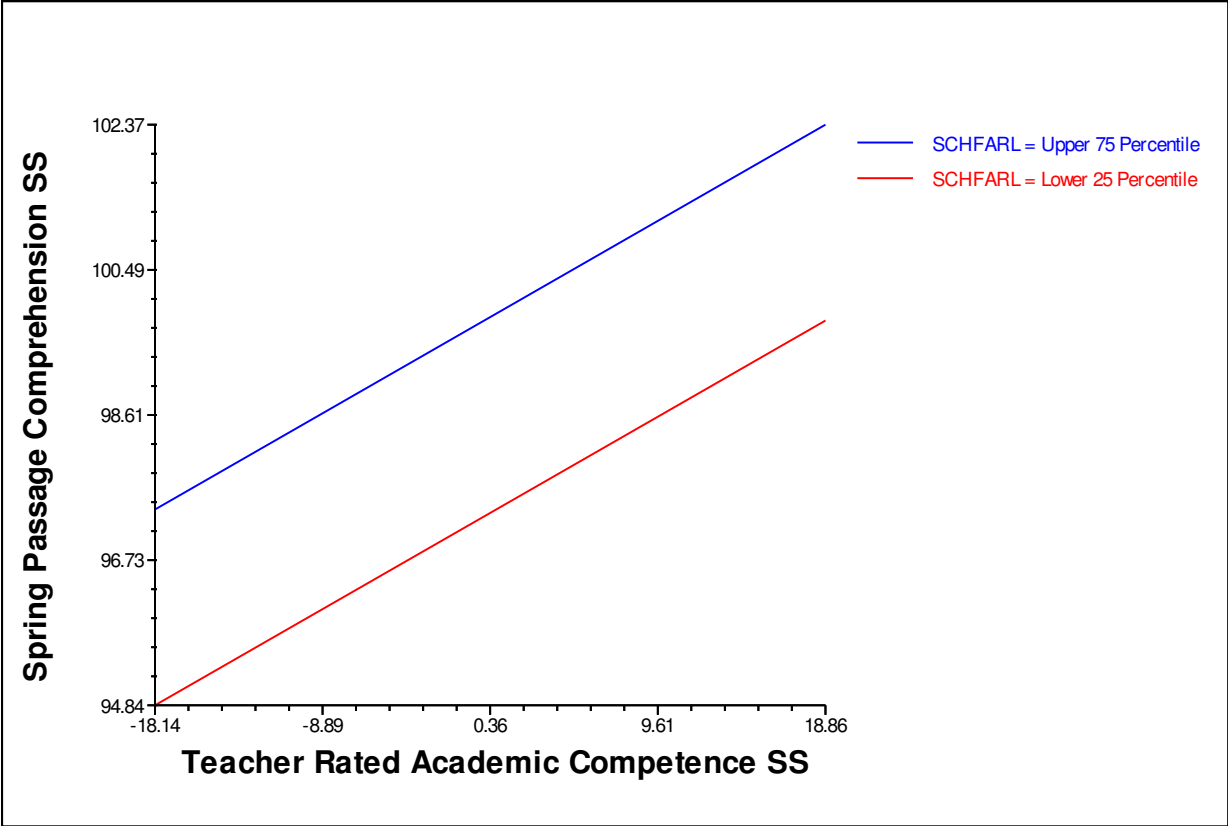


Figure 3. Spring Passage Comprehension Standard Scores (SS) – Effect of Teacher SSRS Perceptions. SCHFARL is school percentage of students qualifying for Free or Reduced Lunch.

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## BIOGRAPHICAL SKETCH

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