

PARENTS' ACADEMIC EXPECTATIONS, CHILDREN'S PERCEPTIONS, AND THE  
READING ACHIEVEMENT OF CHILDREN AT VARYING RISK

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## ABSTRACT

MICHELLE H. STERN: Parents' Academic Expectations, Children's Perceptions, and the Reading Achievement of Children at Varying Risk  
(Under the direction of D. Lynn Flowers, Ph.D. and Rune J. Simeonsson, Ph.D.)

The purpose of this study was to examine how parents' academic expectations, and children's perceptions of those expectations, are related to the reading achievement of elementary school students, and how these relationships may differ for students at varying risk for poor reading. The study included data from a sample of 94 third and fourth grade students and their primary caretakers. Standardized measures of reading achievement along with experimental measures of academic expectations were administered to participants. Data were analyzed with the overall sample, and for subgroups of students at lower and higher risk for poor reading achievement,  $n = 64$  and  $30$ , respectively. Results suggested that when parents' expectations and children's perceptions, represented by composite scores, were examined together in one model, only parents' reports of their academic expectations were significantly related to the reading achievement of the overall sample. While parents' reported expectations were significantly related to end of year reading achievement for the lower risk group, neither parents' reports nor children's perceptions were significantly related to the reading achievement of the higher risk group. When different definitions of parents' academic expectations were examined as individual contributors, as opposed to a composite score, parents' estimates of their children's reading performance as compared to peers was most predictive of children's reading achievement for the overall sample and for children at

lower risk for poor reading. In contrast, only parents' expectations for how much their child would like reading compared to peers was significantly related to the reading achievement of children at higher risk for poor reading. Parents' academic expectations for children's report card grades in reading and future educational attainment were also examined; however, their influence was more limited. This study contributed to the parent expectation literature by examining both parents' academic expectations and children's perceptions in elementary school aged children, as well as in children at higher risk for poor reading. Further, examining multiple definitions for academic expectations in one analysis allowed for a comparison of those individual items most significantly related to reading achievement.

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## LIST OF ABBREVIATIONS

EOG	End of Grade Test
NAEP	National Assessment of Educational Progress
NELS-88	National Educational Longitudinal Study of 1988
P4	Parents' ability estimates of their children's report card grades in reading (Item 4 on the measure of parents' academic expectations)
P5	Parents' realistic expectations for their children's report card grades in reading (Item 5 on the measure of parents' academic expectations)
P6	Parents' idealistic expectations for their children's report card grades in reading (Item 6 on the measure of parents' academic expectations)
P8	Parents' realistic expectations for their children's future educational attainment (Item 8 on the measure of parents' academic expectations)
P9	Parents' idealistic expectations for their children's future educational attainment (Item 9 on the measure of parents' academic expectations)
P10	Parents' estimates for their children's reading performance compared to peers (Item 10 on the measure of parents' academic expectations)
P11	Parents' expectations for their children's reading performance compared to peers (Item 11 on the measure of parents' academic expectations)
P12	Parents' expectations for their children's reading performance next year compared to peers (Item 12 on the measure of parents' academic expectations)
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P16	Parents' expectations for how much their children will like reading compared to peers (Item 16 on the measure of parents' academic expectations)

C3	Children's perceptions of parents' realistic expectations for children's report card grades in reading (Item 3 on the measure of children's perceptions of parents' academic expectations)
C5	Children's perceptions of parents' realistic expectations for children's future educational attainment (Item 5 on the measure of children's perceptions of parents' academic expectations)
C6	Children's perceptions of parents' idealistic expectations for children's future educational attainment (Item 6 on the measure of children's perceptions of parents' academic expectations)
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C11	Children's perceptions of parents' expectations for children's reading performance in high school compared to peers (Item 11 on the measure of children's perceptions of parents' academic expectations)
C12	Children's perceptions of parents' expectations for how much children will learn in reading this year compared to peers (Item 12 on the measure of children's perceptions of parents' academic expectations)
C13	Children's perceptions of parents' expectations for how much children will like reading this year compared to peers (Item 13 on the measure of children's perceptions of parents' academic expectations)
WJ-III	Woodcock Johnson Tests of Achievement – Third Edition

## CHAPTER I

### Introduction

Parents' academic expectations for their children have been found to be significantly related to the achievement of children at all age levels. Many of the studies examining the relationship between parents' expectations and children's achievement have been done with typically achieving students, and have found a positive relationship between the two, with higher parental expectations associated with higher achievement. More recently, the reading achievement of American students has become a great concern, as a large percentage of students struggle to read at the basic level, as defined by the National Assessment of Educational Progress (2005) (approximately 32% of boys and 22% of girls in the eighth grade read below a basic level), and are therefore at greater risk for school drop out, unemployment, and poor emotional adjustment. Therefore, researchers and clinicians have been examining potential avenues for intervention.

Educators are challenged not only to guide parents in implementing efficacious educational interventions, but to provide them with empirically based guidance on how to best support their children in their educational pursuits, despite the challenges they may confront. Understanding the relationship between parental expectations and the reading achievement of children of varying reading ability provides parents, educators, and other professionals with important knowledge that can be applied towards intervention efforts. However, few studies have examined the relationship between parents' academic

expectations and achievement in children who struggle to learn, representing the need for rigorous research in this area.

It is also important to understand how children perceive their parents' academic expectations and what relationship these perceptions have to children's achievement. The way in which parents' expectations are perceived could affect their influence. The relationship between parents' academic expectations and children's perceptions is also important, as a discrepancy between parents and children may represent other areas to explore when examining the relationship between parents' expectations and children's outcomes. Research examining children's perceptions of their parents' academic expectations has predominantly studied adolescents, however, due to the preventive benefits of early intervention it appears important to understand these relationships in children of a younger age so that differences between parents' expectations and how they are perceived can be understood and addressed.

In addition, it is not clear which of parents' academic expectations are important contributors to children's achievement. More specifically, do parents' academic expectations for children's current academic performance or future educational attainment have a more significant relationship with achievement or are these relationships similar? Research focused on examining these questions can help to better focus intervention efforts.

The present research study addresses some of these questions through a systematic exploration of the following research questions: (1) What is the nature of the relationship between parents' academic expectations for their children and children's perceptions of those expectations for third and fourth grade students? (2) What is the nature of the relationship between parents' academic expectations for their children, children's

perceptions of them, and reading achievement for third and fourth grade students? (3) Are parents' academic expectations for their children or children's perceptions the more significant predictor of reading achievement for third and fourth grade students? (4) Which conceptualization of parents' academic expectations best predicts the reading achievement of third and fourth grade students?



## CHAPTER II

### Literature Review

#### *Outcomes of Poor Reading Achievement*

The poor reading achievement of students is a serious concern in American education. The National Assessment of Educational Progress (NAEP) (2005) reports that 39% of boys and 33% of girls in the fourth grade read below the basic level, which is defined as “partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.” Similar percentages are reported for eighth graders as 32% of boys and 22% of girls cannot read at the basic level. Additionally, of the 2 million students with specific learning disabilities receiving special education services, 80% have primary difficulties with reading (Lyon et al., 2001).

Further, the academic future of students who struggle to read is significantly affected. Research examining the outcomes of students with reading disabilities reveals that students’ reading difficulties persist over time (Flowers, Meyer, Lovato, Wood, & Felton, 2001; Lyon, 1996; Satz, Buka, Lipsitt, & Seidman, 1998). Flowers and colleagues found that poor readers, identified in third grade, did not catch up to their normally reading peers by twelfth grade on measures of real word identification and decoding of nonwords, two reading skills considered to be critical markers of a reading disability. These results held for all poor readers, regardless of whether a significant discrepancy existed between their measured cognitive ability and reading achievement. In addition, poor readers had fluency rates,

another significant cognitive correlate of reading, below the tenth percentile through eighth grade. Research also suggests that students with reading disabilities are more likely to drop out prior to graduating from high school (Maughan, 1995), experience greater unemployment in adulthood (Satz et al.), and have poorer emotional adjustment, involving anxiety and depression (Willcutt & Pennington, 2000).

These alarming findings have motivated federal legislation, resulting in the Reading First Initiative of the *No Child Left Behind Act*, encouraging schools across the country to identify students in kindergarten through third grade who are at risk for poor reading achievement and to provide them with needed intervention. Researchers have also been driven to examine factors that influence students' reading achievement, in hopes of discovering potential channels for intervention.

The following literature review identifies the factors related to students' reading achievement (as well as academic achievement more broadly) which have been examined as possible routes for intervention, with a special focus on family variables. More specifically, parents' academic expectations will be distinguished as an especially important family variable influencing academic achievement. Research examining parents' academic expectations for their children will be discussed in terms of definitional ambiguities, measurement issues, and applicability to students of different ages, cultural backgrounds, and learning needs. In addition, gaps in the literature are identified along with ways in which the present study planned to address them. The research questions and hypotheses set forth in this study are then outlined.

### *Important Influence of Family Process Variables*

Traditionally, research in the field of reading disabilities has focused on identifying distinguishing characteristics of students with reading difficulties and examining the ways their learning patterns and styles compare to those of their normally achieving peers. A typical assessment of a student with a potential learning disability such as reading consisted of documenting underachievement and identifying deficiencies in information processing presumed to be intrinsic to the student. Thus aligned with this diagnostic procedure, research in the area of learning disabilities has traditionally adhered to a ‘personal attributes model’ (Bronfenbrenner, 1988), emphasizing factors intrinsic to an individual when comparing students with learning disabilities to their normally achieving peers. Focus on variables intrinsic to the individual has certainly lead to significant advances in the field, including the identification of cognitive processes essential to the reading process, as well as insights into the structure and functions of the brains of individuals with reading disabilities (Eden et al., 2004; Silani et al., 2005). These findings, however, do not address the influence of environmental context.

In discussing the importance of personal and environmental factors, Bronfenbrenner argues that a ‘personal attributes model’ in its isolated form remains incomplete and simplistic. Alternatively, he proposes a ‘process-person-context’ research model that considers both the person and the environment in which he is embedded, as well as the interaction between them (Bronfenbrenner, 1988). Bronfenbrenner’s emphasis on the significant influence of factors within an individual’s environment (e.g. family, school, neighborhood) on children’s outcomes has led more researchers within the field of reading

disabilities to examine the influence of environmental contexts on achievement as another potential route for intervention (Bronfenbrenner, 1986).

For example, Fleming, Cook, and Stone (2002) examined the influence of family, peer group, and school contexts on the reading achievement of urban middle school students with and without learning disabilities. They found that family climate, which consisted of measures of home academic support and parental attention to misbehavior, was the only context that had a particularly strong relationship to both groups of students' reading achievement at fifth grade. One's peer group climate, measured by the *Lack of Negative Peer Influences construct* of the Adolescent Attitudes Questionnaire (a measure of friendship group quality), while not initially related to 5<sup>th</sup> grade reading achievement, was positively related to rates of change in reading achievement between 5<sup>th</sup> and 8<sup>th</sup> grade. This finding suggests that as students progress through middle school, peer groups may become more influential and the influence of the family may vary, highlighting the stronger importance of family during the elementary school years. Fleming et al. emphasize that processes working within the family (e.g. home academic support and parental attention to misbehavior) clearly have an influence on reading achievement as their influence remains present above and beyond family-status measures such as socioeconomic status and family structure.

In a review of the past two decades of research on family involvement in education, Christenson (2004) argues that to truly advance educational outcomes for students, school personnel must recognize the family as a primary socializing agent for educational success. While educators must be sensitive to the status-oriented family variables such as socioeconomic status, parental education, and number of adults in the home (Baker & Entwisle, 1987; Cohen, 1987; Gill & Reynolds, 1996; Fejgin, 1995), Christenson argues that

family processes should be a primary concern. Similarly, Castro, Lubker, Bryant, and Skinner (2002) found family processes (e.g. parents' expectations about child's educational attainment) to contribute to first grade children's academic skills (e.g. oral language and reading) above and beyond sociodemographic variables. The important relationship between family process variables and students' achievement highlights the family as a viable route for possibly improving the reading achievement of American students.

#### *Parents' Academic Expectations & Students' Achievement*

Among the family process variables that appear to be most significant to students' academic achievement are parents' academic expectations for their children. Parents' academic expectations have reliably been shown to be a strong predictor of students' achievement at all age levels, beginning in elementary school (Baker & Entwisle, 1987; Christenson, Rounds, & Gorney, 1992; Entwisle & Alexander, 1996; Entwisle, Alexander, Pallas, & Cadigan, 1988; Entwisle & Hayduk, 1988; Phillips, 1992; Seginer, Cohen, & Zukerman, 1987; Thompson, Alexander, & Entwisle, 1988), continuing to middle school (Kaplan, Liu, & Kaplan, 2001; Patrikakou, 1996, 1997; Singh et al., 1995), and to high school (Catsambis, 2001). The importance of parents' academic expectations on the achievement of students of varying races and cultures has also been widely cited (Castro, Lubker, Bryant, & Skinner, 2002; Dandy & Nettelbeck, 2002; Fejgin, 1995; Goldenberg, Gallimore, Reese, & Garnier, 2001; Gill & Reynolds, 1999; Goyette & Xie, 1999; Halle, Kurtz-Costes, & Mahoney, 1997; Mau, 1995; Reynolds & Gill, 1994; Seginer & Vermulst, 2002; Stevenson, Chen, & Uttal, 1990). Empirical studies have consistently supported the strong influence of parents' academic expectations on children's academic achievement,

despite variations in participants' characteristics, definitions of parents' expectations and academic achievement, and data collection methods.

### *Defining Parents' Academic Expectations*

A review of the parents' expectations research indicates that academic expectations are defined in various ways. Most of the investigators reviewed define parents' academic expectations in terms of future educational attainment expected for their children, while others define it as expectations for their children's current academic performance. In addition, investigators vary in their emphasis of the realistic or idealistic aspects of these expectations. Researchers may also include an estimate of children's ability when assessing parents' academic expectations, as an additional measure. The following discussion delineates these different definitions of parents' academic expectations.

#### *Time frame: current academic performance versus future educational attainment.*

Researchers who define parents' academic expectations in terms of children's current academic performance typically ask parents about their expectations for their children's grades on a report card (e.g. Dandy & Nettelbeck, 2002; Entwisle & Alexander, 1996; Entwisle, Alexander, Pallas, & Cadigan, 1988; Entwisle & Hayduk, 1988; Seginer, 1985; Seginer, Cohen, & Zukerman, 1987; Seginer & Vermulst, 2002; Thompson, Alexander, & Entwisle, 1988). For example, when studying the influence of parents' expectations on elementary school children's academic performance, Entwisle and her research group measured parents' expectations by asking mothers to indicate their expectations for their children's first report card grades in reading and mathematics.

Researchers defining parents' academic expectations as expectations for their children's future educational attainment typically ask parents how far they expect their child

to go in school (Castro, Lubker, Bryant, & Skinner, 2002; Catsambis, 2001; Fejgin, 1995; Gill & Reynolds, 1996, 1999; Goldenberg, Gallimore, Reese, & Garnier, 2001; Goyette & Xie, 1999; Halle, Kurtz-Costes, & Mahoney, 1997; Kaplan, Liu, & Kaplan, 2001; Keith & Scharter, 1995; Marjoribanks, 1987; Mau, 1995; Newman & Cameto, 1993; Patrikakou, 1996, 1997; Reynolds & Gill, 1994; Singh, Bickley, Trivette, Keith, Keith, & Anderson, 1995; Stevenson, Chen, & Ugal, 1990; Trusty, 2000). Parents' expectations for children's future educational attainment may also be referred to as "aspirations" in the literature due to the future orientation of the question. Researchers, however, are not consistent in applying the term "aspirations." For example, researchers using the National Educational Longitudinal Sample of 1988 (NELS-88) with the same measure of parental expectations (e.g. "How far do you expect your 8<sup>th</sup> grader to go [in school]?" (Patrikakou, 1997, p. 25), vary in whether they define the data as parental expectations or aspirations. While some researchers define this question as a measure of aspirations, consistent with the future-oriented nature of the question (Keith & Scharter, 1995; Singh et al., 1995), others do not make this distinction (Catsambis, 2001; Fejgin, 1995; Goyette & Xie, 1999; Patrikakou, 1996, 1997; Trusty, 2000). Davies and Kandel (1981) and Teachman and Paasch (1998) are also researchers who define parents' expectations for their children's future educational attainment as a measure of aspirations. Due to the inconsistency in utilizing the term "aspirations", this term will not be referred to in this study. Instead, the phrase, 'parents' expectations for children's future educational attainment' will be used when discussing all studies using this definition of parental expectations.

*Realistic versus idealistic expectations.*

In defining expectations, researchers also vary on whether they emphasize the realistic or idealistic aspects of expectations. Realistic expectations are typically defined as the “predictions made by parents that their child will attain a certain level of academic performance,” while idealistic expectations are “the dreams, wishes, and hopeful anticipations that parents hold for their child in the academic realm” (Seginer, 1983, p. 6). Researchers who define expectations in realistic terms typically ask parents or children what they *expect* or *think* will happen (Castro, Lubker, Bryant, & Skinner, 2002; Christenson, 1990; Fejgin, 1995; Gill & Reynolds, 1996, 1999; Goldenberg, Gallimore, Reese, & Garnier, 2001; Kaplan, Liu, & Kaplan, 2001; Marjoribanks, 1987; Newman & Cameto, 1993; Patrikakou, 1996, 1997; Phillips, 1992; Powell & Peet, 1996; Reynolds & Gill, 1994; Seginer, 1985; Seginer, Cohen, & Zukerman, 1987; Seginer & Vermulst, 2002; Singh, Bickley, Trivette, Keith, Keith, & Anderson, 1995; Trusty, 2000) while idealistic expectations are assessed by asking parents and children what they *want* or *hope* will happen (Christenson, 1990; Davies & Kandel, 1981; Goldenberg, Gallimore, Reese, & Garnier, 2001; Helwig, 1998; Powell & Peet, 1996; Seginer, 1985; Seginer, Cohen, & Zukerman, 1987; Teachman & Paasch, 1998). For example, when assessing parents’ expectations for their children’s current academic performance, Seginer et al. assessed parents’ realistic expectations with the question, “What grades do you in fact *expect* [italics added] [your child] to receive in his final report card?” and measured idealistic expectations with the question, “What grades do you *want* [italics added] [your child] to receive in his final report card?” (p. 351). Similarly, when distinguishing between parents’ realistic and idealistic expectations for their children’s future educational attainment, Christenson assessed



realistic expectations by asking parents, “How much education do you *really expect* [italics added] [your child] to receive?” and measured parents’ idealistic expectations by asking, “How much education do you *want* [italics added] [your child] to receive?” (p. 12).

*Various definitions in the same study.*

Researchers comparing the influence of realistic and idealistic expectations on students’ academic achievement have found them to yield different results. For example, in a longitudinal study (kindergarten to sixth grade) of immigrant Latino parents’ realistic and idealistic expectations for their children’s future educational attainment ( $n = 81$ ), Goldenberg, Gallimore, Reese, and Garnier (2001) found different relationships for parents’ realistic and idealistic expectations and their children’s achievement. While parents’ realistic expectations for their children’s future educational attainment fluctuated considerably throughout elementary school, their idealistic expectations were found to be high, stable, and certain over the elementary school years. More specifically, Latino parents’ realistic expectations became increasingly linked to how well children were doing in school, despite being unrelated in kindergarten. At the beginning of kindergarten, nearly 60% of parents realistically expected their children to attend or complete university, which then changed with children’s achievement. In contrast, idealistic expectations appeared almost entirely independent of student achievement. Latino parents aspired to high levels of formal schooling regardless of how well their children were doing academically. For example, when children began school, more than 90% of parents aspired for their children to attend or complete university. Over the course of elementary school, a high level of idealistic expectations continued to be expressed, with approximately 90% of the parents continuing to say they aspired to their child’s attending or completing university.

Powell and Peet (1996) also compared parents' realistic and idealistic expectations when examining the relationship between mothers' beliefs about their elementary school children's educational and occupational futures and children's academic achievement ( $n = 141$  first and fourth grade children and their mothers). Interestingly, they used mothers' realistic and idealistic expectations to create an "aspiration differential" (p. 2), the difference in the type of job mothers' realistically expect their child to hold as an adult and the job mothers' believe would be ideal for their child. Mothers without a significant aspiration differential believed their child would attain the amount of education necessary to work in both the expected and the ideal type of job, while mothers with a significant aspiration differential thought the ideal job required more education than they expected their child to receive. Powell and Peet found that children of mothers without a significant aspiration differential (i.e. consistent realistic and idealistic expectations) had significantly higher report card grades and standardized achievement scores.

The work of Seginer (1985) is also unique in that it includes both dimensions of defining parents' expectations within the same study. For example, Seginer compared parents' realistic expectations for their children's current academic performance with parents' idealistic expectations for their children's future educational attainment when examining the achievement of seventh and eighth grade students living in urban Israel ( $n = 105$ ). Interestingly, Seginer found different relationships for these two forms of expectations, as perceived by the child, and children's achievement. While realistic expectations of academic performance were positively related to males' achievement, idealistic expectations for educational attainment were found to be negatively related to females' academic performance. Unfortunately, this study did not include a measure of parents' idealistic

expectations for current academic performance and a measure of realistic expectations for children's future educational attainment so we are unclear whether the differences seen are due to the realistic versus the idealistic nature of the assessment, the definition of expectations used (current versus future), or some other contributing variable.

While Dandy and Nettelbeck (2002) also included a measure of parents' expectations for both their children's academic performance and future educational attainment, they did not compare these different forms of expectations to one another. Thus, the influence of expectations for current academic performance versus future educational attainment does not become clearer.

*Connotations of the word expect.*

The word *expect* poses its own definitional ambiguity. While some researchers refer to expect as a synonym for anticipate, (e.g. Entwisle & Alexander, 1996; Entwisle, Alexander, Pallas, & Cadigan, 1988; Entwisle & Hayduk, 1988; Halle, Kurtz-Costes, & Mahoney, 1997; Newman & Cameto, 1993; Phillips, 1992; Thompson, Alexander, & Entwisle, 1988), others use it to represent a standard with which one would be satisfied (e.g. Seginer, 1985; Seginer, Cohen, & Zukerman, 1987). In an investigation of the academic expectations Asian Australian and Anglo-Celtic Australian parents (n=239) hold for their elementary and middle school aged children, Dandy and Nettelbeck (2002) defined expectations in both ways. For example, when measuring parents' expectations for children's academic performance, parents were asked to indicate a score on a hypothetical test that they anticipated their child would attain (referred to as the expected score) and a score with which they would be satisfied (referred to as the satisfied score). The difference between parents' 'expected score' and 'satisfied score' was then calculated. Interestingly, a

large proportion of Anglo-Celtic Australian parents did not complete the question referring to the score with which they would be satisfied. Instead, they responded that they would be happy with whatever their child achieved as long as he/she did her best; this did not occur among Asian Australian parents. While Asian Australian and Anglo-Celtic Australian parents' both anticipated that their children would score highly, Asian Australian parents reported significantly higher satisfied scores.

*Ability estimates.*

Included in the parent expectation literature are assessments of parents' thoughts about their children's actual ability. For example, Entwisle and her colleagues ask parents to rate their child's ability to do schoolwork. More specifically, Entwisle, Alexander, Pallas, and Cadigan (1988) asked parents, "How do you think your child compares with other children in his/her school in terms of ability to do schoolwork?" (p. 178). Studies including parents' estimates of their child's ability to do schoolwork have found ability estimates to be significantly related to elementary school aged children's short and long term reading and math achievement (Entwisle & Alexander, 1996; Entwisle & Hayduk, 1988, respectively). For example, Entwisle and Hayduk (1988) found that parents' estimates of their child's ability to do schoolwork relative to other children in the 3<sup>rd</sup> grade was significantly related to children's reading and math achievement measured four to nine years later on standardized achievement tests (California Achievement Test or Iowa Test of Basic Skills). While this finding was most pronounced for students attending a school with a Caucasian middle class population, it was also seen amongst students attending a school with a predominantly African American working class population. Exact sample sizes are not provided, but the authors did indicate that the samples used in this follow-up study were less exhaustive than

the original sample, which consisted of 550, 604, and 406 first through third grade students for the Caucasian, integrated, and African-American schools, respectively.

*Summary of definitions used in parent expectation literature.*

This discussion highlights the various ways academic expectations are conceptualized in the parent expectation literature. As Seginer (1985) points out, “expectations are a frequently used though rarely defined concept” (p. 122). While many researchers find it sufficient to relate children’s academic performance to a measure of either parental expectations for children’s current academic performance or parental expectations for children’s future educational attainment, Seginer argues that “since parents communicate both types of expectations to their children...both types of expectations should be considered” (p. 122). Additionally, variations in the relationship between realistic and idealistic expectations and children’s achievement make it important for researchers to not only make explicit how parents’ academic expectations are conceptualized, but to also involve multiple definitions of parental expectations in order to determine which is most significant in influencing children’s achievement: realistic expectations for current academic performance; idealistic expectations for current academic performance; realistic expectations for future educational attainment; idealistic expectations for future educational attainment. Parents’ ability estimates should also be included in future examinations of parents’ academic expectations in order to compare their value in relationship to students’ achievement.

*Parents’ Academic Expectations and Children’s Perceptions*

Studies examining parents’ academic expectations for their children have measured them in two ways, either via parents’ self reports or by measuring children’s perceptions of

their parents' expectations. In the literature reviewed, only five studies have included BOTH parents' self-reports and children's perceptions in the same research design. Each study was with an adolescent sample (6<sup>th</sup> grade through high school). For brevity purposes, where appropriate parents' reports of their academic expectations for their children will be referred to as "parents' reports" and children's perceptions of their parents' academic expectations will be referred to as "children's perceptions."

More specifically, Davies and Kandel (1981) included parents' reports of their idealistic expectations for their children's educational attainment and children's perceptions when examining the interpersonal influences of parents and peers on adolescents' own expectations ( $n = 762$  matched adolescent-parent-best school friend triads). Davies and Kandel noted that "[one] limitation of most previous estimates of interpersonal influences is that they are often based on the adolescent's perceptions of the significant others' attitudes or behaviors rather than on the significant others' self-reports of these attributes" (p. 365). The authors were interested in determining whether distortions are introduced when measures of parental influences are based on children's perceptions rather than on parents' reports. Therefore, Davies and Kandel compared the results of a model containing parents' self-reports to a model using adolescents' perceptions when predicting adolescents' own expectations.

When comparing the two models, there were important differences in the results. First, the perceptual measure increased the amount of variance explained in adolescents' expectations from 41% to 58% for males and from 37% to 50% for females. Additionally, the perceptual measure inflated the size of parental effects by approximately 50% for both genders and reduced the size of peer effects for females. Davies and Kandel (1981)

suggested that these “inflated” results were due to adolescents’ perceptions of parental expectations partially reflecting the adolescents’ expectations for themselves.

When a model including both parents’ reports and adolescents’ perceptions was run, parents’ reports of their idealistic expectations for their adolescents’ future educational attainment had significant direct and indirect effects on adolescents’ own expectations. Adolescents’ perceptions, however, had approximately three times the direct effect of parents’ reports. Adolescents’ perceptions were believed to have the greater influence on their own expectations, as their perceptions are hypothesized to reflect not only their parents’ expectations, but also the expectations they hold for themselves. Davies and Kandel (1981) tested this hypothesis and found that adolescents’ expectations for themselves determine in part their perceptions of their parents’ expectations, suggesting that perceptions are not simply the reflection of the others’ (i.e. parents’) attributes, but are influenced by the perceiver’s own characteristics as well.

Overall, parents’ idealistic expectations for their adolescents’ educational attainment (measured via self-reports or child perceptions) had a much stronger influence on their adolescent’s expectations than the idealistic expectations of best friends. In fact, relative to the influence of best friends, parents’ influence increased over time (i.e. over the age span of 14 through 18 years represented in the sample). Except for the standardized effects of academic performance, which was approximately equal to self-reported parental expectations, the direct effects of parents’ expectations (measured via self-reports or perceptions) were stronger than the effect of any other variable (e.g. fathers’ education, mother’s education, father’s occupation, socioeconomic composite, and best friend’s idealistic expectations for future educational attainment).

Patrikakou (1996, 1997) too, carried out studies including both parents' reports and adolescents' perceptions. Whereas Davies and Kandel (1981) studied the influence of parents' expectations on adolescents' own expectations, Patrikakou extended this work and examined the contributions of parents' expectations (reported and perceived) to adolescents' achievement.

Using data collected from eighth grade students who participated in NELS-88 ( $n = 5643$ ), Patrikakou (1997) applied a structural model of academic achievement to better understand the school performance of adolescents of varying ethnic backgrounds, including 381 African Americans, 243 Asians, 375 Hispanics, and 4644 Caucasians. The model consisted of three sources of influence in addition to background factors (e.g. gender, socioeconomic status, and prior achievement): (1) parental factors, including direct parental involvement in school activities, parental communication regarding adolescents' educational plans, and parents' realistic expectations for adolescents' future educational attainment; (2) perception of parental influences, which included adolescents' perceptions of parental involvement, parental communication, and parental expectations; and (3) adolescents' characteristics, including self-concept, time spent on homework, and adolescents' own expectations for their educational attainment. Academic achievement was the outcome variable, defined as scores on standardized tests in reading, mathematics, science, and social sciences (the exact tests were not provided).

Of the parental factors examined, Patrikakou (1997) concluded that parents' realistic expectations for their adolescents' future educational attainment had the strongest contribution to academic achievement. It should be noted, however, that no parental factor had significant direct effects on academic achievement for any of the four ethnic groups,



except for the influence of parental expectations on Asian students' achievement. Patrikakou concluded that parents' reports influence academic achievement indirectly via their direct effect on adolescents' perceptions, and adolescents' own expectations. For African Americans, Asians, and Caucasians, adolescents' perceptions of parents' expectations emerged as having the strongest indirect effects of all the variables, including surpassing the indirect effects of prior achievement. Its effects were mediated via adolescents' own expectations. For Hispanics, however, prior achievement had the strongest indirect effect, followed by perception of parental communication. Interestingly, within the group of perception variables, the only significant positive direct effect was that of perception of parental expectations, which occurred only for Caucasian students.

Using the same structural model of academic achievement, including parental behaviors, their perception by the adolescent, and adolescent characteristics, Patrikakou (1996) compared the model's efficiency in explaining the academic performance of adolescents with and without learning difficulties ( $n = 269$  and  $n = 4644$ , respectively) who participated in the NELS-88. Similar to the results discussed above (Patrikakou, 1997), of the three parental factors examined, parents' reports of their realistic expectations for their adolescent's educational attainment had the most significant influence on achievement for students with and without learning difficulties, via its direct effect on adolescents' perceptions, and its direct effect on adolescents' own expectations. For both groups of students, adolescents' perceptions of parents' expectations was the only perception variable to have a significant direct effect on achievement. In addition, adolescents' perceptions of parental expectations emerged as having the greatest indirect effects of all the variables. Similar to the results reported above for the varying ethnic groups, the relationship between

adolescents' perceptions and academic achievement was mediated by adolescents' own expectations.

Gill and Reynolds (1999) also examined a model of mediated effects to study the influence of parents' and teachers' expectations on outcomes of sixth grade students. More specifically, they explored the associations among sociodemographic variables, parents' and teachers' reports of their expectations, adolescents' perceptions, and math and reading achievement within a low-income, African-American population taken from the Chicago Longitudinal Study (n=712). Unlike the studies discussed above (Davies & Kandel, 1981; Patrikakou, 1996, 1997), Gill and Reynolds did not include the same measure of parents' expectations and adolescents' perceptions. Parents' expectations for their adolescent's future educational attainment were measured using the single question, "How far in school do you think your child will get?" (Gill & Reynolds, 1996, p. 4). Adolescents, however, were asked about their perceptions of their parents' expectations for current academic performance. Adolescents rated their perception of parent expectations on a 4-point scale (1 = strongly disagree; 4 = strongly agree) in response to the statement: "My parents expect me to do well in school" (Gill & Reynolds, 1999, p. 403-424).

Results suggested that adolescents' perceptions only partially mediated the effects of parental expectations to sixth grade reading and math achievement, as parents' reports were found to have significant direct effects. Adolescents' perceptions were also found to add unique independent variance to achievement outcomes. These results, however, must be interpreted cautiously when comparing the influence of parents' reports and adolescents' perceptions on academic achievement due to the discrepant definitions and measures used in this study.

In a similar study focusing exclusively on parental influences on the school success of at risk students from the Chicago Longitudinal Study ( $n = 745$ ), Gill and Reynolds (1996) found that parents' realistic expectations for adolescents' educational attainment accounted for a small though significant amount of the variance in reading and math achievement, as measured by the Iowa Test of Basic Skills (3.7% and 6.3% respectively). Adolescents' perceptions also explained significant variance in reading (2.8%) and math (2.3%) achievement, suggesting that both parents' reports and children's perceptions are important contributors to achievement.

*Summary of parents' academic expectations and children's perceptions.*

The studies discussed above all found both parents' reports of their academic expectations and adolescents' perceptions of them to be important contributors to the outcome variable, either directly or indirectly. While in most cases, adolescents' perceptions were found to be the more significant contributor, parents' reports still had direct influences on adolescents' own expectations, as discussed in Davies and Kandel (1981) as well as Patrikakou (1997, 1996), and on achievement, as reported in Gill and Reynolds (1999, 1996). Thus, in understanding the relationship between parents' expectations and children's achievement, it is important to consider the independent and combined contributions of both parents' self reports and their children's perceptions.

*Parents' Reports of Academic Expectations for Their Children*

*Typically achieving elementary school students.*

Studies examining parents' academic expectations (typically only mothers), and the achievement of elementary school aged children have found parents' reports to be especially potent in predicting achievement. In a sample of beginning first grade students (reading

sample,  $n = 383$ ; math sample,  $n = 391$ ), Entwisle and Alexander (1996) found that in predicting reading and math test scores, adding parents' reports of their expectations for children's current academic performance to models including family structure (e.g. living arrangement: single parent vs. presence of other adults vs. two-parent families; mother's age; number of siblings; and family economic status) increased the explained variance from 13% to 23% for reading and from 31% to 44% for math. Additionally, parents' reported expectations had a somewhat stronger relationship than did socioeconomic variables (e.g. parent's years of completed schooling and the child's eligibility for meal subsidy at school) to gains on standardized measures of reading achievement over the first two years of school.

Entwisle, Alexander, Pallas, and Cadigan (1988) also found parents' realistic expectations for their first grade child's academic performance to influence end of the year standardized test scores in reading, while children's own expectations made a small negative contribution to reading achievement. In fact, these first grade children tended to overestimate their school grades. Despite receiving grades considerably lower than their stated expectations in the fall, the children had not lowered their expectations by spring. Instead, children's expectations in the spring were on average higher than those in the fall.

Halle, Kurtz-Costes, and Mahoney (1997) found similar results when examining the influence of parents' achievement-related beliefs and behaviors on the academic self-concept and achievement of a low-income, African American sample of third and fourth grade children ( $n = 41$  children and their primary caregivers). Parents' achievement beliefs included parents' realistic expectations for their children's future educational attainment, parent beliefs about the average child's abilities at a given age, and parent perceptions of

their children's academic skills relative to peers. Parents' achievement-fostering behaviors included a measure of the frequency with which parents spoke to their children about certain knowledge-related topics, as well as an estimate of the number of books in the home. Relationships between parents' beliefs and children's achievement were found to be stronger and more consistent than the relationships between parental behaviors and children's academic achievement. Of the parental beliefs examined, parents' realistic expectations for their children's future educational attainment and parents' perceptions of their children's academic skills were associated with math and reading achievement scores obtained nine months later. Parents' expectations for their children's future educational attainment were generally optimistic with 46% predicting that their child would finish college. Of the parental behaviors investigated, only the number of children's books in the home was related to children's reading scores at the end of the following school year. Once previous achievement was controlled for, however, only correlations between parents' expectations and reading achievement and parents' math-related beliefs and math achievement remained reliable.

The important influence of parents' reports of their academic expectations on children's achievement in the elementary school grades is also documented in the international literature. For example, Castro, Lubker, Bryant, and Skinner (2002) examined the influence of parents' realistic expectations for children's future educational attainment on the reading achievement of elementary school children living abroad. More specifically, Castro et al. studied the relationships among child and family demographic characteristics, preschool experience, family processes, and the oral language and reading abilities of first

grade Peruvian children living in poverty ( $n = 137$ ). Demographic variables studied included child's age, gender, birth order, maternal education, and parent language status. Type of preschool the child attended (no preschool, nonformal preschool, or public/private preschool) was also included in the analyses, as well as family process variables, including parents' reported expectations for their children's future educational attainment (high school or less, technical, and university) and parent-to-child reading.

Parents' reported expectations were found to be positively related to all measures of oral language (e.g. picture vocabulary and verbal analogies subtests of the *Woodcock-Munoz Language Survey Spanish Version (WMLS-S)*) and reading abilities (e.g. Letter Word Identification subtest of the *WMLS-S* and a Spanish test of reading comprehension, *Prueba de Comprensio'n Lectora de Complejidad Lingui'stica Progresiva*). More specifically, children whose parents had the highest level of expectation (i.e. university) obtained significantly higher scores on the two measures of oral language than children whose parents had the lowest level of expectations (high school or less). Similarly, children whose parents had the highest expectations were more likely to be in the higher difficulty category on both measures of reading ability than were those children whose parents had lower expectations (technical and high school or less). Parental expectations accounted for 24% and 26% of the variance on Picture Vocabulary scores and Verbal Analogies, respectively, as well as 8% and 11% of the variance on Letter Word Identification and Reading Comprehension scores, respectively. Overall, parents reported expectations emerged as the strongest predictor of children's oral language and reading scores, after child and family demographic variables were controlled.

In addition, in a multiethnic sample of Canadian children in second through sixth grade (12% African-American, 13% Asian American, 19% Latino, 51% Anglo, & 4% 'other'), Phillips (1992) found significant, positive relationships between parents' realistic expectations for their children's future educational attainment and children's reading and math standardized test scores, as measured by the Metropolitan Achievement Test 6. Parents' reported expectations were also related to achievement gains in the Computation subtest of the Math Test, and to reading comprehension gains of female students with lower socioeconomic status.

*Typically achieving secondary school students.*

The continued influence of parents' reported academic expectations on adolescents' achievement is noteworthy due to the changing role of the family during this transitional time. Singh et al. (1995) assessed four components of parental involvement contributing to the academic achievement of eighth grade students, including parents' reported realistic expectations for their children's future educational attainment, parent-child communication about school, home structure, and parental participation in school related activities. Data was analyzed for 21,834 students and their parents from NELS-88. Of the four components, only parents' reported expectations had an effect on students' achievement (defined as scores on standardized achievement tests in English, Math, Social Studies, and Science).

In examining the connections between parent involvement practices and the educational outcomes of high school seniors from the NELS-88 ( $n = 13,580$  parents and their children), Catsambis (2001) found similar results. Parents' realistic expectations for their children's future educational attainment were positively associated with seniors' enrollment

in an academic high school track and with total high school credits completed in English, math, and science.

Cohen (1987) also found parents' reports of their academic expectations for their children's future educational attainment to be influential in predicting adolescents' own college expectations, and their educational attainment measured fifteen years later. In fact, parents' reported expectations were overall more influential than parents' level of education in predicting both adolescents' expectations and their educational attainment later on.

Parents' reports of their academic expectations have also been shown to have a significant influence on the achievement of students of varying races and ethnicities. As discussed previously, in a sample of eighth grade students of different ethnic backgrounds ( $n = 5643$ ), Patrikakou (1997) found parents' realistic expectations for their children's future educational attainment to be the strongest form of parental influence on academic achievement compared to other parental factors examined (e.g. direct parental involvement in school activities and parental communication regarding students' educational plans).

Similarly, Reynolds and Gill (1994) found parents' realistic expectations for their children's future educational attainment to have the highest correlation with child outcomes when examining the relationship amongst multiple parental attitudes and behaviors, and the academic achievement of low-income, African American sixth grade students ( $n = 729$ ). Other parental attitudes examined included parents' satisfaction with the quality of education their children have received, and parents' general attitudes toward school and education. Parent behaviors included parental encouragement, parental involvement in school, parent monitoring, and engagement in educational activities. In fact, of all the parental attitudes and behaviors, parents' reports of their academic expectations and satisfaction with the quality of



their children's schooling were the only variables significantly associated with children's reading and math achievement (as well as teacher ratings of children's competence) above and beyond family background factors (e.g. parent education, socioeconomic status, family structure, employment status, gender).

In addition, Keith and Scharter (1995) found that Mexican American parents who hold higher realistic expectations for their children's future educational attainment (measured in eighth grade) positively influence whether their children remain in school through 10<sup>th</sup> grade ( $n = 1714$  Mexican Americans who participated in the NELS-88). Interestingly, students of emigrant parents were more likely to still be in school in the 10<sup>th</sup> grade compared to students whose parents were born in the United States. Taken together, these results suggest that parental expectations not only influence children's achievement, but their likelihood to remain in school (at least for the Hispanic population).

*Students with learning difficulties.*

While a profusion of studies have examined the relationship between parents' academic expectations and the achievement of typically achieving students, few studies have examined the relationship between parents' reports of their academic expectations and the achievement of students with learning difficulties, those in greatest need of intervention efforts. Researchers examining parents' expectations for students with learning difficulties have mostly compared mothers' academic expectations for students with and without learning disabilities. These studies have found that parents of children with learning disabilities hold lower expectations for their children's academic performance than parents of typically achieving children, which has been found for elementary (Boersma & Chapman, 1982), middle school (Chapman & Boersma, 1979), and high school aged students (Hiebert,

Wong, & Hunter, 1982). Lower parental expectations for the academic performance of children with disabilities have been cited as early as preschool, and have been linked with differing home-based literacy practices of mothers with and without children with disabilities (Marvin, 1994; Marvin & Mirenda, 1993).

Due to the reciprocal interactive nature of parent-child relationships, Tollison, Palmer, and Stowe (1987) argue that, “it may be unproductive merely to list differences between mothers of handicapped and nonhandicapped youngsters,” as it represents a unidirectional approach (p. 91). Instead, they suggest that researchers should consider the influence these parental differences have on children. Unfortunately, however, only a limited number of studies have actually examined the influence of mothers’ ‘lower expectations’ on the achievement of children with learning difficulties.

Researchers who have examined parents’ expectations and the academic functioning of children with learning difficulties have concluded that parents’ expectations for children’s current academic performance and future educational attainment are important contributors to achievement (Feagans, Merriwether, & Haldane, 1991; Patrikakou, 1996; Switzer, 1990; Tollison, Palmer, & Stowe, 1987). For example, Switzer examined family influences on the academic achievement of children with diagnosed learning disabilities in a clinical investigation of three families across a three-year period. The results suggested four factors that were commonly observed in families who help their children with an identified learning disability reach their optimal level of functioning, one of them being maintaining developmentally appropriate academic expectations. This finding, however, is not generalizable due to the restrictive sample size of the investigation. In addition, the ages of the children were not reported.

Patrikakou (1996), on the other hand, conducted a comprehensive analysis comparing the efficiency of a structural model of achievement in explaining the school performance of adolescents with and without learning disabilities ( $n = 269$ , mean age = 14.52 and  $n = 4644$ , mean age = 14.26) who participated in the NELS-88. The model used in this study was the same model described previously including parental behaviors, their perception by the adolescent, and adolescent characteristics. Of the parental factors examined, parents' realistic expectations for their adolescent's educational attainment had the most significant influence on achievement for both groups of students, via its direct influence on adolescents' perceptions of parents' expectations.

Conclusions drawn from Patrikakou's (1996) study regarding the similar influence of parents' expectations on the academic achievement of children with and without learning difficulties should be reserved, as the definition of learning disabilities was illusive and nondiscriminating. Students were classified as "learning disabled" based on parents' response to a single question, "Has your eighth grader ever received special services for a specific learning problem?" (p. 439). Since some children without learning disabilities could have received a "special service" for a learning problem and some children with learning disabilities may not have been identified, or may not have received special services, one questions whether enough variation exists between the two groups of students to detect real differences. Future research should include more precise definitions of affected students when examining how this group of students may differ from typically achieving students.

In contrast to Patrikakou's (1996) findings, Tollison, Palmer, and Stowe (1987) found different relationships between parents' academic expectations and children's performance for children with and without learning disabilities. In a sample of second through fourth

grade Caucasian males and their mothers ( $n = 15$  mothers and their sons with learning disabilities;  $n = 16$  mothers and their typically achieving sons), mothers' reported expectations were negatively correlated to their learning disabled son's performance on an academic math task, while mothers' expectations were positively related to the performance of sons without learning disabilities. The difference in the relationships for children with and without learning disabilities was found to be statistically significant. While the sample size of this study is small, the definition of "learning disabled" is more precise. More specifically, the "learning-disabled" sample was comprised of students who met State Education Agency eligibility criteria for identification of a learning disability and were receiving special education services in resource rooms for part of each school day.

The finding of a negative relationship between mothers' expectations and children's performance among children with learning disabilities raises the possibility that high expectations for children with learning difficulties may be detrimental to their actual performance, at least in a sample of Caucasian, elementary school aged males. In fact, Tollison, Palmer, and Stowe (1987) concluded that "high expectations may result in children experiencing more pressure, greater anxiety and, as a result, performance decrements..." (p. 90).

Other researchers have also cautioned that high academic expectations could result in children feeling parental pressure and demands, especially for children with learning difficulties (Ablard & Parker, 1997; Patrikakou 1996, 1997; Seginer, 1985). For example, as Ablard and Parker found academically talented students of parents' with high performance standards to feel greater parental pressure and criticism, placing them at risk for feelings of anxiety and underachievement, it appears even more plausible that high demands of parents

will negatively affect children with learning difficulties. Ablard and Parker (1997) caution that, “moderately high expectations facilitate performance, but when expectations are unrealistically high, problematic beliefs and feelings may result” (p. 653). While Patrikakou (1996) advocates for parents of students with learning disabilities to hold high expectations, she too acknowledges that the dilemma of conveying high expectations for this group of children is the risk of denying the realities of learning disabilities. She emphasizes that, “High levels of pressure and stress may lead to negative or even destructive results.” (p. 20). Thus, while the majority of the literature examining parents’ academic expectations supports a positive relationship between expectations and children’s achievement, high parental expectations may actually serve as unrealistic expectations for students with learning difficulties, leading to a negative relationship between parents’ expectations and the achievement of children with learning difficulties, as found by Tollison, Palmer, and Stowe (1987).

In a sample of elementary school children with and without learning disabilities ( $n = 53$ ,  $n = 62$ , respectively), Feagans, Merriwether, and Haldane (1991) also found that children with a “low-fit” to their mother’s expectations had significantly lower achievement on standardized measures of reading and mathematics throughout elementary school. Moreover, mothers’ expectations and beliefs about their child’s fit in the home at age six or seven were related to the child’s achievement measured at age twelve. Only the learning-disabled “low-fit” subgroup, however, displayed less on-task behavior in addition to their lower achievement, supporting the hypothesis that fit with parental expectations may be even more important for children with learning disabilities.

Children were labeled as a “low fit” or “high fit” in the family context using a “goodness of fit questionnaire” completed by the mother. The questionnaire asked mothers to select the five most desirable and undesirable characteristics from a list of 19 desirable and 19 undesirable behaviors. Later, the mother was asked to rate her child on each of the behaviors according to a 4-point scale (occurring never, seldom, sometimes, or often). Mothers’ ratings for the undesirable behaviors were then examined to determine how often their child exhibited the identified “undesirable” behavior. A criterion was set and used to classify students as a low or high fit within the family context. Results of this study highlight the negative outcomes that can arise (e.g. poor academic achievement and poor classroom behavior) when children do not meet the expectations of their families, as evidenced by the poorer performance of the “low-fit” group, and the even stronger sensitivity of children with learning disabilities.

*Summary of parents’ reports of academic expectations for their children.*

Parents’ reports of their academic expectations are significant contributors to children’s achievement, regardless of whether expectations for current academic performance or future educational attainment are assessed. The contribution of parents’ reported academic expectations has been found in children of different ages, and cultural backgrounds. The majority of this research, however, has been done with typically achieving students. Further work is needed to understand how parents’ academic expectations are related to the achievement of students with learning difficulties. While some research supports the idea that the influence of parents’ expectations on achievement is similar for children with and without learning difficulties (Patrikakou, 1996), other research (Tollison, Palmer, & Stowe, 1987) suggests that a negative relationship between parents’ expectations

and achievement may exist for students with learning disabilities, and that high parental expectations may place too much pressure on struggling students.

### *Children's Perceptions of Parents' Academic Expectations*

#### *Typically achieving students.*

In addition to parents' reports of their academic expectations for their children, children's perceptions of parents' academic expectations have also been found to have a significant influence on achievement. Generally, higher perceived parental expectations are associated with higher academic performance (Fejgin, 1995; Gill & Reynolds, 1999; Kaplan, Liu, Kaplan, 2001; Patrikakou, 1996, 1997; Seginer, 1985; Teachman & Paasch, 1998). For example, in examining parental variables that contribute to the academic achievement of Jewish, Asian, Caucasian, and African American tenth grade students, Fejgin (1995) found that adolescents' perceptions of parents' realistic expectations for future educational attainment had the highest effect on mathematics grades after ethnic-racial background, gender, and parental resources were accounted for. Similarly, Patrikakou (1996, 1997) found adolescents' perceptions of parents' expectations for future educational attainment to have a significant positive influence on the achievement of eighth grade students of varying ethnic backgrounds, and for students with and without learning difficulties. Additionally, in both studies examining the influence of parents' expectations on the achievement of low-income, African American, sixth grade students, Gill and Reynolds (1996, 1999) found adolescents' perceptions of their parents' realistic expectations for current academic performance to have a significant positive influence on reading and math achievement.

In addition to the positive relationships found between children's perceptions and achievement, negative relationships have also been reported. For example, Seginer (1985)

found adolescents' perceptions of their parents' idealistic expectations for future educational attainment to be negatively related to females' achievement in a sample of 105 seventh and eighth grade adolescents living in urban Israel. Seginer argues that the negative relationship found for females can be explained by the conflict experienced by low achieving females, resulting in high parental expectations being perceived as pressure, and thus being counterproductive in their efforts. This explanation, however, is confusing, as it was not clear that the sample included low achieving females specifically or that they were studied separately. Unfortunately, Seginer (1985) did not include a measure of parents' reports of their idealistic expectations for their children's educational attainment, as it would be interesting (and important) to note whether parents' reports would also be negatively related to females' academic performance or whether there is something in the communication between parents and their adolescent daughter that is being perceived as pressure.

Based on results of their multicultural tenth grade sample ( $n = 185$  Chinese, 140 American, 39 Chinese-American), Chen and Lan (1998) concluded that children have values and aspirations that are not always in accord with their parents' expectations, evidenced by strong feelings of independence. Thus, a true understanding of the influence of parents' academic expectations requires an understanding of how they are perceived by their children. Seginer (1983) too points out in her review of the influence of parents' academic expectations on children's achievement that, at least among adolescents, the boundaries within which parents assert their influence are established by the adolescents themselves.

These conclusions emphasize the importance of studying children's perceptions when examining the relationship between parents' expectations and academic achievement. It appears that it is not simply sufficient for parents to hold academic expectations for their



children, but also to communicate them with clarity so that they are accurately perceived. As Gill and Reynolds (1999) emphasize, “regardless of parent expectations unless children perceive them accurately, [they] are not likely to influence schooling” (p. 407).

*Students with learning difficulties.*

Only one study found (Patrikakou, 1996) examined the role of children’s perceptions of their parents’ academic expectations in a sample of students with learning difficulties. How do children’s perceptions of their parents’ expectations compare to parents’ reports for students with learning difficulties? Are children’s perceptions of parents’ expectations related to achievement in the same way for students with and without learning difficulties? Patrikakou (1996) attempted to address these questions through a structural model of academic achievement. Similar to the results for typically achieving adolescents, adolescents’ perceptions of their parents’ expectations for future educational attainment were found to have a more significant influence on the achievement of students with learning disabilities than were parents’ reports. However, the perceptions of adolescents with learning disabilities did not have a significant direct effect on academic achievement. While this difference for the two samples of adolescents was not elaborated upon by the author, perhaps this suggests a different relationship between children’s perceptions of their parents’ expectations and the achievement of children with and without learning difficulties. Patrikakou did run an analysis of interaction effects and claimed that there was no evidence that the investigated variables influenced academic achievement differently for students with and without learning disabilities. As mentioned previously, however, results of this study must be viewed cautiously when applied to students who struggle to learn, due to the broad and illusive definition of learning disabilities.

*Summary of children's perceptions of parents' academic expectations.*

The work reviewed examining the relationship between children's perceptions of their parents' academic expectations and the achievement of students with and without learning difficulties has been carried out with adolescents. Additionally, only one study has examined the perceptions of students with learning difficulties and the definition used for "learning disabled" was rather nonspecific (Patrikakou, 1996). Therefore, it appears that more work needs to be done examining the relationship between children's perceptions of their parents' expectations and the academic achievement of students at higher risk for academic difficulties. Further, children in the primary grades should be studied, as there may be developmental differences.

*Contributions of the Present Study*

The present study addresses three major gaps in the literature on the relationship between parents' academic expectations and children's academic achievement. One gap discussed is the paucity of studies including parents' expectations for children's current academic performance and parents' expectations for future educational attainment within the same study. The second gap identified is the lack of studies examining both parents' reports of their academic expectations and children's perceptions when examining the relationship between parents' academic expectations and children's achievement, especially for children in the primary grades. A third gap identified is the insufficient number of studies examining the relationship between parents' reports of their academic expectations, children's perceptions, and achievement in a well-defined sample of students who struggle to learn. In addition, there are few recent studies that address this topic, and many of the studies

examining the relationships between parents' academic expectations and children's achievement are based on secondary data analysis.

This study addresses the first gap in the literature by including parents' expectations for children's current academic performance and parents' expectations for future educational attainment, as well as the realistic and idealistic components of each. More specifically, three major areas are assessed (1) expectations for children's general reading performance as compared to peers (2) expectations for children's report card grades in reading (3) expectations for children's future educational attainment. Parents' estimates of children's ability are also examined in each of these areas. Appendix A provides a summary of the definitions used by other researchers in the field. Examining the various conceptualizations of parents' academic expectations in one study allows for the determination of which definition(s) is (are) most significant in predicting children's achievement. Because definitions of parental academic expectations have varied across studies, it is difficult to discern from the current literature where intervention efforts should be focused when attempting to guide parents in setting the most supportive expectations.

Responding to the second gap identified, the present study examines the relationship between parents' expectations and academic achievement including *both* parents' reports and children's perceptions within a sample of third and fourth grade students. Studying the relationship of academic expectations and achievement in elementary school aged students, as opposed to adolescents, offers a more parsimonious study of parental expectations, as these younger students are still strongly influenced by their family system, rather than by the complications of later environmental influences (Bronfenbrenner, 1986).

The present study addresses the third gap identified in the literature by examining how parents' academic expectations and children's perceptions are related to the reading achievement of students at varying risk for poor reading achievement using a more precise and focused measure of risk than those used in other studies. The measure used in this study can be used with any student regardless of location, whereas definitions of students with learning disabilities used in the school system, while generally guided by federal definitions, can vary from state to state. Despite numerous studies examining the relationship between parents' academic expectations and the achievement of typically achieving students, research examining parents' academic expectations, children's perceptions, and the academic achievement of students with learning difficulties is disappointing, especially considering the methods used to define low achieving students.

Finally, this study examines the relationships between parents' academic expectations, children's perceptions, and achievement in a specific domain, reading achievement. Given the large percentage of students still struggling to read at the basic level and the dismal academic outcomes reported for many of these students, a better understanding of the relationship between academic expectations and children's reading achievement provides parents, educators, and other professionals with a powerful and economical (low-cost) way to intervene.

### *Research Questions and Hypotheses*

#### *Research Question 1*

What is the nature of the relationship between parents' academic expectations for their children and children's perceptions of those expectations for third and fourth grade students?

*Hypothesis 1. Parents' academic expectations for their children and children's perceptions of them are predicted to be positively related to one another in the overall sample and in the lower and higher risk groups.*

Davies and Kandel (1981) found a significant and positive correlation between parents' reported expectations for their children's future educational attainment and children's perceptions of those expectations in a sample of 762 high school students. Similarly, Patrikakou (1996, 1997) found a significant and positive relationship between parents' reported expectations and children's perceptions in a large sample of eighth grade students from varying ethnic groups, and for students with and without learning disabilities. Thus, similar to Davies and Kandel, and Patrikakou findings, a significant and positive relationship is predicted for the overall sample and for students in the lower and higher risk groups in this study. This hypothesis, however, is exploratory given that children's perceptions of parents' academic expectations have not been studied among elementary school children. Additionally, only parents' academic expectations for children's future educational attainment were assessed in the cited studies, whereas the present study used multiple definitions of parents' academic expectations found in the literature.

#### *Research Question 2*

What is the nature of the relationship between parents' reports of their academic expectations for their children, children's perceptions of them, and reading achievement for third and fourth grade students?

*Hypothesis2a. For the overall sample, the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

Similar to the studies discussed throughout the literature review reporting a linear and positive relationship between parents' academic expectations (reported and perceived) and students' achievement, a linear, positive relationship is predicted between parents reported academic expectations and children's achievement, as well as between children's perceptions of parents' academic expectations and children's achievement, where higher parental expectations are related to higher achievement in the sample as a whole. The prediction of a linear and positive relationship between children's perceptions of parents' academic expectations and children's reading achievement is also exploratory, given the lack of studies examining children's perceptions in elementary school aged children.

*Hypothesis 2b. For children at lower risk for poor reading achievement (the better readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

Consistent with the literature reporting a linear and positive relationship between parents' academic expectations (reported and perceived) and children's achievement for typically achieving students, a linear and positive relationship is predicted between parents' academic expectations (reported and perceived) and the achievement of elementary school aged students who are at lower risk for poor reading (i.e. better readers).

*Hypothesis 2c. For children at higher risk for poor reading achievement (the poorer readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be curvilinear, as is the relationship between children's perceptions and reading achievement. That is, within this group, both higher and lower expectations are predicted to be associated with lower reading achievement.*

Similar to the predictions for the overall sample and lower risk group, children's perceptions of parents' academic expectations are predicted to function in a similar way as parents' reports for the higher risk group (i.e. poorer readers). The relationship between parents' academic expectations (reported and perceived) and children's achievement, however, is predicted to differ from that of the lower risk group due to the different learning experiences of this group of students.

The results of Tollison, Palmer, and Stowe (1987) highlight this point as they found mothers' expectations for how well their children would perform on a math test to be negatively related to the performance of students with learning disabilities, and positively related to the performance of typically achieving students. In contrast, Patrikakou (1996) argued that the model of parental influences, including parents' self reported expectations and children's perceptions, worked in the same way for students with and without learning disabilities, as they shared several common paths of significance. As mentioned previously, however, Patrikakou used a broad and inclusive measure to distinguish students with learning disabilities, while Tollison et al. used a more specific and discriminating definition. While the sample used by Tollison et al. also has its limitations (e.g. only included 15 Caucasian males with learning disabilities), the definition of learning disabilities used in their study makes their findings more relevant. In addition, Tollison et al. included students in grades two through four, while Patrikakou studied adolescents; thus making Tollison et al.'s findings even more applicable to this study.

As discussed by other researchers (Ablard & Parker, 1997; Patrikakou 1996, 1997; Seginer, 1985; Tollison, Palmer, & Stowe, 1987) high parental academic expectations, whether reported by parents or perceived by their children, can result in children feeling high

parental pressure and demands, especially if the child has difficulty achieving. Feelings of parental pressure could then lead to lower academic performance and perhaps emotional difficulties as suggested by Ablard and Parker (1997). Tollison, Palmer, and Stowe's (1987) finding of a negative relationship between mothers' expectations and children's performance among the sample of children with learning disabilities further supports the hypothesis that high parental expectations for children who struggle to learn (i.e. high risk readers) may be detrimental to their actual achievement. Thus, higher academic expectations among parents (whether reported or perceived) are predicted to be associated with lower reading achievement for the higher risk group.

Similar to typically achieving students, however, low parental expectations are also thought to contribute to low achievement among students with learning difficulties, as there is no parental encouragement or motivation to learn. Parents who do not expect much for their children (whether typically achieving or with learning difficulties) do not appear to provide the necessary confidence, support, and perhaps opportunities needed for children to achieve appropriately. As Switzer (1990) pointed out, children with learning difficulties especially need the support of their family to reach their optimal level of functioning. If academic achievement is not valued among parents, it is difficult to imagine how it becomes important to a student. While Tollison, Palmer, and Stowe (1987) argue that low expectations held by mothers of children with learning difficulties reflects sensitivity to their children's needs and experiences, it is argued here that too low of expectations may not provide enough encouragement. Thus, low academic expectations held by parents are predicted to be related to lower achievement in a sample of poor readers as well.



### *Research Question 3*

Are parents' academic expectations for their children or children's perceptions the more significant predictor of reading achievement for third and fourth grade students?

*Hypothesis 3. Children's perceptions of parents' academic expectations will explain significantly more of the variance in reading achievement than will parents' reports in the overall sample, and in the lower and higher risk groups.*

As discussed, studies including both a measure of parents' reported academic expectations and children's perceptions have generally found children's perceptions to be the more significant predictor of children's achievement (Patrikakou, 1996, 1997). This finding was also true when Patrikakou (1996) studied a sample of adolescents with learning difficulties. Therefore, in the present study the relationship between children's perceptions of their parents' academic expectations and children's reading achievement is predicted to be stronger than parents' reports for all the samples studied, as the child's conscious perception is thought to be more powerful than the expectation itself (as in Patrikakou). This hypothesis, however, is also exploratory within this age population, as previous studies examining children's perceptions of their parents' academic expectations have only included adolescent samples.

### *Research Question 4*

Which conceptualization of academic expectations best predicts the reading achievement of third and fourth grade students?

*Hypothesis 4. Realistic expectations for report card grades in reading are predicted to be the best predictors of reading achievement in the overall sample, and in the lower and higher risk groups.*

As indicated in the literature review, both parents' expectations for children's current academic performance and parents' expectations for children's future educational attainment have been found to be significantly related to children's achievement. Due to the young age of this sample, it is predicted that parents' academic expectations for children's current academic performance will have the strongest relationship to children's reading achievement due to its more immediate influence. More specifically, parents' realistic expectations for children's report card grades in reading are thought to be the best predictor of reading achievement, as it represents a reality based standard for something that has immediate relevance (e.g. children's report card grades) and is more concrete than children's reading performance more generally. This hypothesis is predicted to pertain to all samples included in this study. This hypothesis is also exploratory, as other studies have not compared the multiple definitions of parents' academic expectations.

## CHAPTER III

### Methodology

This chapter describes the methodology used to explore the research questions and test the proposed hypotheses outlined in Chapter Two.

#### *Research Context*

This study was carried out at a local elementary school in a rural county in the central region of North Carolina. The school includes students in pre-Kindergarten through the fifth grade. There were 451 students enrolled for the 2004-2005 school year. The ethnic population of the school is 69% Caucasian, 17% Hispanic, 11% African American, and 3% Multicultural. Approximately 13% of the school population has English as their second language. Approximately 50% of the students receive a free or reduced lunch, and 25% receive exceptional children services. The school is designated as a School of Distinction according to the North Carolina accountability standards. The principal of the school, who has been principal for two years, is an avid supporter of collaborative research, and has a particular interest in students' reading achievement.

#### *Research Participants*

##### *Recruitment*

This study is unique in that it was a collaborative project between the researcher and the school, whereby the data collected for the study was also used by the school to assist with the educational curriculum and programming for third and fourth grade students. Therefore,

the principal gave permission for all third and fourth grade students to participate in the study.

In April 2004, it was first agreed upon by the principal and the researcher that third grade students would participate in the study. Thus, in July, 2004 a letter was sent out to all third grade parents informing them of their children's participation. In the same letter, parents were recruited for their participation in a 10 minute phone interview regarding their academic expectations for their children. A copy of the letter can be found in Appendix B. Included with the letter were two copies of a Statement of Informed Consent (also found in Appendix B). One copy was for parents to complete and return in the included stamped and self-addressed envelope if they were interested in participating in the phone interview, and the other copy was to be kept by them for their files. Parents were given the opportunity to return the Statement of Informed Consent via mail or in the 'drop box' located in front of the main office at the school. This box also contained extra forms and envelopes.

In addition, an information meeting for third grade families and teachers was hosted at the school's Parent Open House in August, 2004. A power point presentation explaining the study was given and all questions were answered. A Spanish translator was also available at the meeting.

At the beginning of the school year, a decision was made to expand the sample to include fourth grade students in response to a request by the school. All fourth grade parents then received a letter with two copies of the Statement of Informed Consent in order to notify them of their children's involvement and recruit their participation in the phone interview. An informational meeting was also held to further inform fourth grade parents of the study.

The same power point presentation given to third grade parents at the Parent Open House was given at the fourth grade information meeting.

All parents received the letter notifying them of the study before any data were collected from the students in order to provide parents with an opportunity to reject their child's participation and or to address questions. Only one parent did not allow their child to participate in the study.

Following the original letter sent out to third and fourth grade parents was a follow-up letter in October and a final reminder in April in order to maximize parent participation. Both follow-up letters can be found in Appendix C.

For Spanish speaking parents, all materials sent home were translated into Spanish by the teacher who works with students with English as their second language. A separate information meeting was held for Spanish speaking parents with a translator present.

### *Students*

Sixty-six third and 77 fourth grade students who were enrolled at the school in the months of August and September 2004 participated in the study, for a total of 143 student participants (78 of who were males and 65 were female). The mean age of the students was nine years and one month. Of the 143 students participating in the study, 73% were Caucasian, 15% Hispanic, 11% African-American, and 1% Multicultural, according to school records. These numbers resemble national averages (US Census, 2003), with slightly fewer Caucasian and Multicultural participants and slightly more African American and Hispanic participants in the school sample.

### *Parents*

Ninety-one female caretakers (which includes 88 mothers, one grandmother, one aunt, and one stepmother with whom the child lives) and 36 male caretakers (which includes 33 fathers, one grandfather, and two stepfathers with whom the child lives) participated in the study. Of the 36 male caretakers, three were the children's primary caretaker. Thus, there were a total of 94 primary caretakers who agreed to participate. Only primary caretaker data were included in this study.

Of the 91 female caretakers, 75 were Caucasian (82%), 10 African American (11%), 5 Hispanic (6%), and 1 Multicultural (1%). Thirty-one of the 36 male caretakers were Caucasian (86%), 3 were African American (8%), and 2 were Hispanic (6%). The average female and male caretaker completed high school; however, education ranged from less than a high school diploma to earning a Master's Degree for each of the genders.

### *Overall Sample*

The overall sample consisted of students for whom both student and primary caretaker data were available ( $n = 94$ ). Thus, there were 48 third (51%) and 46 (49%) fourth grade students who participated in the study, 49 of who are males (52%) and 45 of who are females (48%). Eighty-one percent of the students and 82% of the primary caretakers are Caucasian, 11% of the students and primary caretakers are African American, 6% of the students and primary caretakers are Hispanic, and 2% of the students and 1% of the primary caretakers identified as Multicultural. There is a noticeable increase of Caucasian participants and decrease in Hispanic participants represented in this overall sample from that including only students, suggesting that Caucasian parents were more likely to volunteer their participation, while Hispanic parents were less likely to offer their involvement.

## *Measures*

### *Demographic Data*

Demographic information regarding student's birth date and ethnicity was collected from school records. Students were also asked about the primary language spoken at home. Information regarding the primary caretaker's ethnicity, highest level of education completed, and primary language spoken at home was gathered during the parent interview. Parents' education level was used as a measure of socioeconomic status in this study, which is consistent with other researchers (McLoyd, 1998).

### *Predictive Assessment of Reading*

All students were administered the *Predictive Assessment of Reading* (PAR), a norm-referenced, culturally fair, instrument that includes tasks of single word reading, phonemic awareness, verbal fluency, and picture vocabulary. This measure was developed to identify students in the earliest school grades who could benefit from additional assistance (Wood, 2001--2004).

The PAR was developed from an epidemiological sample of 220 first and 180 third grade students assessed longitudinally through eighth grade. The first grade PAR score was found to predict third and eighth grade *Woodcock-Johnson Psycho-Educational Battery* (WJPB, 1977) Broad Reading Cluster scores better than the first grade WJPB predicted itself (1<sup>st</sup> WJBR to 3<sup>rd</sup> WJBR:  $R^2 = .74$ ; 1<sup>st</sup> PAR to 3<sup>rd</sup> WJPB:  $R^2 = .75$ ; 1<sup>st</sup> WJBR to 8<sup>th</sup> WJBR:  $R^2 = .68$ ; 1<sup>st</sup> PAR to 8<sup>th</sup> WJPB:  $R^2 = .69$ ). In a cross validation study ( $n = 619$ ) including Caucasians, African Americans, and Hispanics, the results were virtually identical for the different groups of students at each grade level ( $R^2 = .90$ ). No significant slope or intercept bias existed across ethnic groups. In sum, the PAR has been shown to have accurate

concurrent and future predictions across a large age range, as well as combined sensitivity and specificity rates close to 90 with low false positive rates.

The PAR takes approximately 15 minutes to administer. Raw scores are entered into PAR software and yield standard scores for each area tested (letter word reading, phonemic awareness, verbal fluency, and picture naming); an overall predicted reading standard score, which is comprised of the four subtest scores; a remediation code signifying the first remedial priority for students with the given profile of strengths and weaknesses; and a remediation intensity code, which represents an estimate of the degree of educational challenge posed by the particular student's profile. Students' overall predicted reading standard score on the PAR was used to divide students into groups of higher and lower skill level.

### *Reading Achievement*

#### *Woodcock-Johnson Tests of Achievement.*

Students' reading achievement was measured using the Broad Reading Cluster of the *Woodcock-Johnson Tests of Achievement – Third Edition, Form B* (WJ-III), which includes the Letter-Word Identification subtest, Reading Fluency subtest, and the Passage Comprehension subtest. The WJ-III is an individually administered achievement test for children, adolescents, and adults aged 2 to 80 years. The Letter-Word Identification subtest measures the student's ability to name words out of context. Participants were asked to pronounce a list of isolated letters and words, including "regular" decodable words and "sight" (irregularly spelled) words. The median reliability of the Letter-Word Identification subtest is .91 in the five to 19 age range. The Reading Fluency subtest measures reading speed and rate, requiring the student to read and comprehend simple sentences within a three-



minute time limit. The difficulty level of the sentences gradually increases to a moderate level. The median reliability of this subtest is .90 in the five to 19 age range. The Passage Comprehension subtest is a measure of reading comprehension and lexical knowledge. Using syntactic and semantic cues, students must read a short passage and identify a missing key word that makes sense in the context of that passage. The items become increasingly difficult as pictorial stimuli are removed and the passages increase in length, level of vocabulary, and complexity of syntactic and semantic cues. The Passage Comprehension subtest has a median reliability of .83 in the age five to 19 range.

The Broad Reading Cluster takes approximately 30 minutes to administer. Raw scores of each subtest are entered into WJ-III software, which yields a standard score, percentile, age and grade equivalent for each subtest, as well as for the Broad Reading Cluster. The Broad Reading Cluster standard score was used as a measure of concurrent reading achievement.

*End of Grade Reading Comprehension Test.*

Students' scores from the Reading Comprehension subtest of the North Carolina End of Grade Test was used as an end-of-the year measure of reading achievement. The North Carolina End-of-Grade Test (EOG) is required by General Statute 115C-174.10 as a component of the North Carolina Annual Testing Program, and is given to students in grades three through eight during the last three weeks of school. The EOG Reading Comprehension test for grades three and four assesses the reading components of the North Carolina *Standard Course of Study*, respectively. The test consists of eight reading selections with three to nine associated questions for each selection. Each student is given five literary

selections (two fiction, one nonfiction, one drama, one poem) and three informational selections. The selections chosen for the reading tests reflect reading for various purposes including literary experience, gaining information, and performing a task.

Scores on the EOG Reading Comprehension Test include a standardized developmental scale score, which depicts growth in reading achievement from year to year. Achievement levels are also generated to provide an interpretation of student performance relative to a predetermined standard. Students' developmental scale scores are converted to one of four achievement level categories, one representing the lowest score and four the highest. In addition, student scores are reported as percentile ranks, which are generated from a statewide distribution of students who took the test during the first year it was administered (i.e. the norming year). Students' standardized developmental scale scores on the EOG Reading Comprehension Test were used as the measure of future reading achievement.

Since the EOG was administered in May 2005, there were some students who participated in the study in August and September of 2004, but were no longer enrolled at the school when the EOG was administered. In addition, some students were exempted from taking the test based on federal regulations. Therefore, EOG Reading data was only available for 129 students (87 of the 94 students with parent participation).

### *Academic Expectations*

#### *Parents' reports of their academic expectations.*

This measure was adapted for this study from items used by other researchers examining parents' academic expectations for their children. While other researchers typically use a single question to assess either parents' expectations for children's current

academic performance or parents' expectations for future educational attainment, this measure used a combination of these questions to assess three major areas: (1) parents' expectations for children's general reading performance as compared to his/her peers, (2) parents' ability estimates, realistic, and idealistic expectations for children's report card grades in reading, and (3) parents' ability estimates, realistic, and idealistic expectations for children's future educational attainment. Questions assessing parents' expectations for children's general reading performance were modeled after Chapman, Boersma, and Maguire's (1979) Projected Academic Performance Scale with written permission from the first author. Questions regarding expectations for children's report card grades and future educational attainment were modeled after those used in the parent expectation literature. Please refer to Appendix A for a summary of measures used by other researchers. A copy of the measure can be found in Appendix D. Higher scores on this measure represented higher expectations.

*Children's perceptions of parents' academic expectations.*

Children's perceptions of parents' academic expectations were measured using the same items as the measure of parents' expectations but assessed the child's perceptions. All three areas described above were assessed; however, only children's perceptions of their parents' realistic and idealistic expectations in these areas were measured. Perceptions of parents' ability estimates were excluded, as when this measure was field tested on ten, third grade students, it was found that children of this age were not able to distinguish parents' ability estimates from parents' realistic expectations. A copy of this measure can be found in Appendix D. Like the parent report measure, higher scores represented higher expectations.

Cue cards were used with each question to provide students with visual prompts. When children were asked about parents' expectations for their general reading performance as compared to their peers, they were given a sheet with 30 students from top to bottom. Students on the sheet were categorized according to the five different response options. The top five students were labeled as "a lot better than other students in class" the next five as "a little better than other students in class", the next five as "about the same as other students", the next five as "a little worse than other students" and the last five students were labeled as "a lot worse than other students." This measure took approximately 15 minutes to administer.

*Composite scores.*

Parents' responses to questions in all three areas were combined to create a composite score, which represented parents' reports of their academic expectations, while children's responses to questions regarding their primary caretaker's expectations were combined to create a composite score representing children's perceptions of parents' academic expectations. Before the respective composite scores were created, all items assessing expectations for children's performance in math were excluded. In addition, a univariate analysis of each questionnaire item was performed, which revealed that the distribution of responses to every item was significantly non-normal, and most were negatively skewed. Skewness for parents' items ranged from -.01 to -3.42, and from -.95 to -3.63 for children's items. Eliminating item seven from the parent questionnaire (*Do you think your child CAN finish high school, go to Technical or specialty school, go to college, go to more school after college?*) and item 4 from the children's questionnaire (*What grades does your mom [primary caretaker] WANT you to get in reading on your final report card this year?*)

resulted in ranges of -.01 to -1.83, and -.95 to -1.88, respectively. Kurtosis for those two items was 11.8 and 11.4, respectively.

### *Estimate of Cognitive Ability*

Cognitive scores for children in the study were provided by the school via each student's identification number. In February of a student's third grade year, he/she receives a group administered, norm-referenced test of cognitive abilities. The *Cognitive Abilities Test* (CAT) is comprised of a Verbal, Quantitative, and Nonverbal section. A standard age score, national stanine, and national percentile rank are provided for each section of the test, as well as an overall composite score. Those students who have English as their second language take the *Naglieri Nonverbal Abilities Test* (NNAT), which also yields a standard score. These tests are given in February of children's third grade year. Therefore, there were 4<sup>th</sup> grade students included in the study who did not receive the CAT during their third grade year, as they had transferred from a different school system. Additionally, there were some third grade students who were present to participate in the study in the beginning of the 2004-2005 school year, but were no longer at the school in February of 2005. Thus, for students without CAT or NNAT data, scores from psychological testing using either the *Wechsler Intelligence Scale for Children – Third Edition* (WISC-III) or the *Wechsler Intelligence Scale for Children – Fourth Edition* (WISC-IV) were entered. There were still, however, students remaining for whom no data were available.

In order to maximize the number of students with cognitive ability data a verbal IQ and nonverbal IQ variable was created. The Verbal IQ variable included either a participant's standard score from the CAT verbal section, their WISC-III Verbal IQ, or their WISC-IV Verbal Comprehension Index. The Nonverbal IQ variable included either a

participant's standard score on the Nonverbal section of the CAT, their NNAT standard score, their WISC-III Performance IQ, or their WISC-IV Perceptual Reasoning Index. There were 124 students then with a measure of verbal cognitive abilities and 129 with a measure of nonverbal cognitive abilities (85 and 86 of the 94 students with parent participation had a measure of verbal cognitive abilities and nonverbal cognitive abilities, respectively).

### *Procedures*

#### *Data Collection*

##### *Students.*

Data was collected from third and fourth grade students in August and September at the very beginning of the 2004-2005 school year. Third grade students were tested first and then fourth grade students. The 60-minute battery of measures described above was administered individually to each student by the researcher and one other trained researcher holding a masters degree in psychology. Children were picked up individually from their classroom by the researcher and taken to private offices within the school where testing was done. Teachers gave permission to release students from class; thus, important components of class were not missed. All data from the participants were scored, checked, and entered by the student's identification number.

##### *Parents.*

All parents who agreed to participate in the phone interview were contacted at the time specified (e.g. before noon; between noon and five; after five; or another specific time). Their interest in participating was confirmed and the phone interview found in Appendix D was administered. Parents were not notified of their child's test results before the phone interview. If requested, testing results were provided afterwards.

### *Data Given to the School*

Aligned with the collaborative nature of the study, the school received each student's results from the *Predictive Assessment of Reading* and from the administered subtests of the *Woodcock-Johnson Tests of Achievement – Third Edition* by September 30, 2004 in order to help with educational planning at the very beginning of the school year. A workshop was conducted with third and fourth grade teachers to educate them on the administered reading measures, how to interpret the scores yielded, and how to then develop interventions appropriate for students' different profiles. Each student's test results were given to his/her teacher at that time. While teachers were asked to share the results with parents during parent-teacher conferences, the researcher was also available at this time to meet with parents. A letter found in Appendix E was sent to parents prior to the conference informing them of the researcher's availability.

Table 1

### Data Collection Timeline

Month	Activity
July 2004	1. Letter notifying 3 <sup>rd</sup> grade parents of study, Statement of Informed Consent, and stamped, self-addressed envelope sent out to parents
August 2004	1. Meeting with 3 <sup>rd</sup> grade parents at Parent Open House 2. Letter notifying 4 <sup>th</sup> grade parents of study, Statement of Informed Consent, and stamped, self-addressed envelope sent out to parents 3. Meeting with 4 <sup>th</sup> grade parents about the study 4. Meeting with 3 <sup>rd</sup> and 4 <sup>th</sup> grade Spanish speaking families 5. Data collection began (data collected from 3 <sup>rd</sup> graders first)

September 2004	1. Student data collection complete 2. Results of PAR and WJ-III provided to the school
November 2004	1. Parent data collection complete

### *Data Analysis*

All data analysis was performed using SAS software (SAS, Version 8).

### *Samples*

As reported, analyses for the overall sample consisted of 94 third and fourth grade students and their primary caretakers, 91 female and 3 male primary caretakers. Analyses were also performed on a subgroup of students at lower risk for poor reading achievement (i.e. lower risk group), and a subgroup of students at higher risk for poor reading (i.e. higher risk group). These groups were constructed using the overall predicted reading standard score students obtained on the PAR. Students with a standard score of 94 or below (<34% percentile) were classified as at higher risk for poor reading achievement ( $n = 30$ ), while students with a standard score above 94 were classified as at lower risk for poor reading achievement ( $n = 64$ ). While different thresholds, ranging from the 25<sup>th</sup> to the 40<sup>th</sup> percentile, are used across the nation to define students at risk for poor reading, the 34<sup>th</sup> percentile was chosen as a cutoff in this study, as according to the National Center for Education Statistics, 34% of fourth grade students in North Carolina read below the Basic level, defined as “partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade” (NAEP, 2003). The sample sizes became smaller when developmental scale scores from the End of Grade Reading Comprehension Test were used as the outcome



measure for reasons described above (87, 62, and 25 in the overall, lower, and higher risk samples respectively).

### *Demographic Variables*

Spearman correlations between demographic variables (e.g. grade, ethnicity, socioeconomic status, and gender), and reading achievement outcome measures (WJ-III Broad Reading Cluster and End of Grade Reading Comprehension Test), and with parents reported expectations and children's perceptions of them were run in the overall sample and in the lower and higher risk groups in order to determine if any of the demographic variables should be partialled out in other analyses. Relationships were examined for significance using a significance level of  $p < .05$ . The conservative Bonferroni correction was used for multiple comparisons; therefore, relationships with  $p < .0125$  (.05 divided by 4, the number of comparisons ran with a given variable) were considered significant.

In the overall sample, grade and socioeconomic status, represented by the highest level of education obtained by the primary caretaker, were significantly related to developmental scale scores obtained on the EOG (grade:  $r_s = .31$ ,  $p = .0030$ ; socioeconomic status:  $r_s = .30$ ,  $p = .0043$ ), and were therefore used as covariates in future analyses using EOG as the outcome variable. In the lower risk sample, only grade was significantly related to EOG developmental scale scores ( $r_s = .46$ ,  $p = .0002$ ), and thus was partialled out in future analyses. No demographic variables were significantly related to measures of reading achievement in the higher risk group.

### *Cognitive Ability*

Given the significant relationship between measures of cognitive ability and reading achievement, as well as academic achievement overall (Wechsler, 2004), it was decided not

to partial out IQ scores in future analyses, as that would remove the very difference on which group differences were based. In fact, in the *Technical and Interpretive Manual of the WISC-IV*, the correlation between the Verbal Comprehension Index of the WISC-IV and the Reading Composite of the *Wechsler Individual Achievement Test-Second Edition* (WIAT-II) is as high as .74, and .80 when correlated with WIAT-II total achievement. The correlation between the Perceptual Reasoning Index of the WISC-IV and the Reading Composite of the WIAT-II is .63, and .71 when correlated with total achievement.

Similarly, in this study both verbal and nonverbal IQ standard scores were significantly related to reading achievement outcome measures in the overall sample. A significance level of .05 was used with a Bonferroni correction ( $.05/2 = p < .025$ ). Verbal IQ was also significantly related to the reading achievement of the lower and higher risk groups, while nonverbal IQ was only significantly related to the reading achievement of the lower risk group. The absence of a significant relationship between nonverbal IQ and reading achievement for the higher risk group could be due to the group's smaller sample size. Please refer to Table 2 for results of the correlation analysis between cognitive ability and reading achievement for the overall, lower, and higher risk samples.

Table 2

Correlations between Verbal and Nonverbal IQ Scores and Reading Achievement

<u>Reading Achievement</u>		<u>Verbal IQ</u>			<u>Nonverbal IQ</u>		
OVERALL SAMPLE		<i>r</i>	<i>p</i>	<i>n</i>	<i>r</i>	<i>p</i>	<i>N</i>
	WJ-III	.83	<.0001	85	.47	<.0001	86
	EOG	.73	<.0001	81	.46	<.0001	82
LOWER RISK SAMPLE							
	WJ-III	.69	<.0001	57	.33	.0129	57
	EOG	.61	<.0001	57	.45	.0005	57
HIGHER RISK SAMPLE							
	WJ-III	.80	<.0001	28	.37	.0491	29
	EOG	.78	<.0001	24	.27	.1894	25

*Research Question 1*

What is the nature of the relationship between parents' academic expectations for their children and children's perceptions of those expectations for third and fourth grade students?

*Hypothesis 1. Parents' academic expectations for their children and children's perceptions of them are predicted to be positively related to one another in the overall sample and in the lower and higher risk groups.*

*Analysis plan.*

Pearson Product Moment Correlations were carried out between parents' reports of their academic expectations for their children and children's perceptions of them, represented

by their respective composite scores. Ethnicity was partialled out in the correlation for the overall sample and the higher risk group, as it was significantly related to parents' reports for these two groups.

### *Research Question 2*

What is the nature of the relationship between parents' academic expectations for their children, children's perceptions of them, and reading achievement for third and fourth grade students?

*Hypothesis 2a. For the overall sample, the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

*Hypothesis 2b. For children at lower risk for poor reading achievement (the better readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

*Hypothesis 2c. For children at higher risk for poor reading achievement (the poorer readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be curvilinear, as is the relationship between children's perceptions and reading achievement. That is, within this group, both higher and lower expectations are predicted to be associated with lower reading achievement.*

### *Analysis plan.*

General Linear Models were carried out between parents' reported academic expectations and the two measures of reading achievement, as well as between children's perceptions and the reading achievement measures for the overall sample and the lower and

higher risk groups. Parents' reported academic expectations and children's perceptions were represented by their respective composite scores. For the overall sample, grade and socioeconomic status were entered into the model as covariates of no interest when EOG was used as the outcome variable, while in the lower risk group grade was entered into the model as a covariate of no interest with EOG.

Because in the higher risk sample a nonlinear relationship was predicted between parents' academic expectations (reported and perceived) and reading achievement, a nonlinear regression analysis was employed to test that model.

### *Research Question 3*

Are parents' academic expectations for their children or children's perceptions the more significant predictor of reading achievement for third and fourth grade students?

*Hypothesis 3. Children's perceptions of parents' academic expectations will explain significantly more of the variance in reading achievement than will parents' reports in the overall sample, and in the lower and higher risk groups.*

### *Analysis plan.*

The General Linear Model was used to determine the relative contributions of parent report (defined by the composite score) and child perception (defined by the composite score) to measures of reading achievement. In the overall sample, grade and socioeconomic status were partialled out when EOG was the outcome variable, while only grade was partialled out for the lower risk group when EOG developmental scale scores were used.

### *Research Question 4*

Which conceptualization of academic expectations best predicts the reading achievement of third and fourth grade students?

*Hypothesis 4. Realistic expectations for report card grades in reading are predicted to be the best predictors of reading achievement in the overall sample, and in the lower and higher risk groups.*

*Analysis plan.*

A Stepwise Regression Model was used to determine which expectation variable(s) contribute(s) most significantly to reading achievement. Expectation variables included (1) parents' expectations for children's general reading performance as compared to his/her peers, (2) parents' ability estimates, realistic, and idealistic expectations for children's report card grades in reading, and (3) parents' realistic and idealistic expectations for children's future educational attainment. Children's perceptions in these areas were also examined.

Due to the large number of variables and limited sample sizes, it was decided to first run correlations between the various expectation variables and the two measures of reading achievement. As a conservative control for multiple comparisons in the correlation analysis, a significance level of less than .05 was divided by 22 (the number of possible predictor variables), giving a significance threshold of  $p < .002$ . Variables meeting that criterion were then entered into the stepwise procedures, one for the WJ-III Broad Reading Cluster and one for the EOG Reading Comprehension Test. Analyses were run for the overall sample, lower and higher risk groups separately. Grade and socioeconomic status were controlled for in the Stepwise Procedure for the overall sample when using EOG scaled scores, while grade was controlled for in the Stepwise procedure for the lower risk group when using the EOG.

In addition, an omnibus stepwise procedure was also run including all items on the parent report and child perception measures, along with covariates of no interest in order to ensure the conservative approach used did not overlook any significant findings.

## CHAPTER IV

### Results

The following chapter presents the results to the research questions and hypotheses that guided this study. Results are organized by hypotheses following descriptive data of the sample.

#### *Sample Characteristics*

Table 3 contains descriptive information on the students included in the overall sample.

Table 3

#### Characteristics of the Student Sample

	3 <sup>rd</sup> grade				4 <sup>th</sup> grade			
	Males		Females		Males		Females	
	<i>n</i> = 22		<i>n</i> = 26		<i>n</i> = 27		<i>n</i> = 19	
Student Characteristics	<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	8.52	.43	8.48	.46	9.85	.47	9.46	.46
Verbal IQ	101.15	18.31	104.88	12.10	99.79	16.93	101.87	15.46
	( <i>n</i> = 20)				( <i>n</i> = 24)		( <i>n</i> = 15)	
Nonverbal IQ	107.30	14.00	104.62	7.82	103.16	13.57	103.13	10.99
	( <i>n</i> = 20)				( <i>n</i> = 25)		( <i>n</i> = 15)	
PAR Standard Score	99.41	9.02	101.19	8.54	96.93	10.42	100.00	8.51
WJ-III Broad Reading	97.14	11.73	100.65	11.35	93.85	12.16	100.79	12.20
EOG Developmental Scale	246.85	8.37	249.31	6.72	251.83	9.96	255.17	8.38
Score	( <i>n</i> = 20)				( <i>n</i> = 23)		( <i>n</i> = 18)	

*Note.* Smaller sample sizes due to missing data are given in parenthesis.

Table 4 presents the correlations between subject characteristics (e.g. grade, ethnicity, socioeconomic status, and gender) and the four main study variables: (1) scores on the WJ-III Broad Reading Cluster; (2) developmental scaled scores on the EOG Reading Comprehension Test; (3) parents' reported expectations represented by the composite score; (4) children's perceptions of parents' expectations represented by the composite score.

Table 4

Correlations between Subject Characteristics and the Four Main Study Variables

Study Variables	Grade	Ethnicity	SES <sup>a</sup>	Gender
	$r_s$ ( $p$ value)	$r_s$ ( $p$ value)	$r_s$ ( $p$ value)	$r_s$ ( $p$ value)
<b>WJ-III</b>				
Overall ( $n = 94$ )	-.12 (.2616)	-.02 (.8315)	.25 (.0168)	.18 (.0788)
Lower Risk ( $n = 60$ )	-.01 (.9150)	.01 (.9453)	.20 (.1102)	.06 (.6510)
Higher Risk ( $n = 30$ )	-.08 (.6828)	-.14 (.4733)	.30 (.1076)	.43 (.0180)
<b>EOG</b>				
Overall ( $n = 87$ )	.31 (.0030)	-.09 (.4281)	.30 (.0043)	.12 (.2851)
Lower Risk ( $n = 62$ )	.46 (.0002)	-.08 (.5528)	.22 (.0898)	.03 (.8071)
Higher Risk ( $n = 25$ )	.11 (.6140)	-.07 (.7460)	.32 (.1231)	.26 (.2024)
<b>Parents' Reported Expectations</b>				
Overall ( $n = 94$ )	.09 (.3703)	.28 (.0065)	.11 (.3136)	.09 (.3989)
Lower Risk ( $n = 64$ )	.11 (.3840)	.12 (.3414)	.11 (.3909)	-.05 (.6897)
Higher Risk ( $n = 30$ )	.19 (.3024)	.52 (.0031)	-.02 (.9130)	.30 (.1129)
<b>Children's Perceptions</b>				
Overall ( $n = 94$ )	.07 (.5066)	.19 (.0741)	.08 (.4545)	-.03 (.7946)
Lower Risk ( $n = 64$ )	-.04 (.7728)	.20 (.1074)	.08 (.5237)	-.11 (.4058)
Higher Risk ( $n = 30$ )	.35 (.0600)	.18 (.3289)	-.04 (.8206)	.09 (.6481)

<sup>a</sup>SES = socioeconomic status.



*Hypothesis 1: Parents' academic expectations for their children and children's perceptions of them are predicted to be positively related to one another in the overall sample and in the lower and higher risk groups.*

Parents' reports of their academic expectations and children's perceptions, as represented by their composite scores, were significantly related to one another at a confidence level below .05 in the overall sample ( $r = .29, p = .0045, n = 94$ ) and lower risk group ( $r = .29, p = .0189, n = 64$ ). In the higher risk group, however, parents' reported expectations were not significantly related with children's perceptions ( $r = .28, p = .1462, n = 30$ ). Thus, Hypothesis one was only supported in the overall and lower risk samples.

*Hypothesis 2a: For the overall sample, the relationship between parents' reports of their academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

Using the General Linear Model procedure with reading achievement as the dependent variable, and parents' reported academic expectations (represented by the composite score) as the independent variable, the relationship between parents' reports of their academic expectations and children's reading achievement was found to be linear and positive in the overall sample at a confidence level of less than .0001 for both the WJ-III and the EOG Reading Comprehension Test. In the model predicting developmental scale scores on the EOG Test, grade and socioeconomic status (represented by caretaker's highest level of education completed) were included as covariates of no interest.

A General Linear Model using children's perceptions of parents' academic expectations (represented by the composite score) as the independent variable found a

significant relationship between children's perceptions and children's scores on the Broad Reading Cluster of the WJ-III. Thus, Hypothesis 2a was supported in the overall sample when WJ-III Broad Reading Cluster scores were used as the measure of reading achievement; however, only parents' reports were significantly related to scores on the End of Grade Reading Comprehension Test. Results can be found in Table 5.

*Hypothesis 2b: For children at lower risk for poor reading achievement (the better readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

Using the General Linear Model Procedure to predict reading achievement outcome from parents' reported academic expectations in the lower risk group (better readers), a positive relationship was found between parents' reported academic expectations and scores on the EOG Reading Comprehension Test at a confidence level of .0014. This relationship, however, did not reach significance when predicting the WJ-III Broad Reading Cluster scores. Grade was also included in the model predicting EOG as a covariate of no interest. Children's perceptions of parents' academic expectations were not predictive of either reading outcome measure. Thus, Hypothesis 2b was not supported in the lower risk sample, except for a significant, positive relationship between parents' reports and children's achievement as measured by the EOG. Please refer to Table 5 for specific results.

*Hypothesis 2c: For children at higher risk for poor reading achievement (the poorer readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be curvilinear, as is the relationship between*

*children's perceptions and reading achievement. That is, within this group, both higher and lower expectations are predicted to be associated with lower reading achievement.*

A General Linear Model procedure was used to examine the relationship between parents' reported academic expectations and children's reading achievement, and between children's perceptions and reading achievement. No significant relationships were found between parents' academic expectations (reported and perceived) and reading achievement. To test the prediction of a nonlinear relationship in this subgroup, a nonlinear regression was run to detect whether a nonlinear function would describe the relationship between the measures of parents' academic expectations and reading achievement. No nonlinear relationship was found. Thus, Hypothesis 2c was not supported.

Table 5

Independent Contributions of Parents' Reported Academic Expectations and Children's Perceptions to Reading Achievement

Reading Achievement	Parents' Reports			Children's Perceptions		
	<i>df</i>	<i>F</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>
	Type III <i>SS</i>			Type III <i>SS</i>		
OVERALL SAMPLE						
WJ-III ( <i>n</i> = 94)	(1, 92) <sup>a</sup>	17.34	<.0001	(1, 92) <sup>b</sup>	4.95	.0286
EOG ( <i>n</i> = 87)	(3, 83) <sup>c</sup>	19.20	<.0001	(3, 83)	1.48	.2265
LOWER RISK						
WJ-III ( <i>n</i> = 64)	(1, 62)	2.62	.1105	(1, 62)	1.77	.1881
EOG ( <i>n</i> = 62)	(2, 59) <sup>d</sup>	11.17	.0014	(2, 59)	.70	.4063
HIGHER RISK						
WJ-III ( <i>n</i> = 30)	(1, 28)	1.33	.2592	(1, 28)	.87	.3595
EOG ( <i>n</i> = 25)	(1, 23)	1.47	.2379	(1, 23)	.00	.9951

<sup>a</sup>*R*<sup>2</sup> for model =.16. <sup>b</sup>*R*<sup>2</sup> for model =.05. <sup>c</sup>*R*<sup>2</sup> for model =.34. <sup>d</sup>*R*<sup>2</sup> for model =.32.

*Hypothesis 3: Children's perceptions of parents' academic expectations will explain significantly more of the variance in reading achievement than will parents' reports in the overall sample, and in the lower and higher risk groups.*

*Overall sample.*

In a General Linear Model Procedure including both parents' reports and children's perceptions (represented by composite scores), the prediction by parents' reports was reduced when children's perceptions were entered into the model, suggesting some shared variance between parent and child reports for the overall sample. Parents' reported academic expectations, however, still significantly contributed to both measures of reading achievement at a significance level of .0006 for WJ-III and <.0001 for EOG. Recall that the model predicting developmental scale scores on the EOG Reading Comprehension Test also includes grade and socioeconomic status.

Children's perceptions were not significantly related to either measure of reading achievement, despite being significantly related to scores on the WJ-III when examined separately from parents' reports. Thus, children's perceptions did not contribute any independent variance. Hypothesis 3 was therefore not supported in the overall sample. Specific values can be found in Table 6.

*Lower and higher risk groups.*

For the lower risk group, parents' reports continued to be significantly related to scores on the EOG Reading Comprehension Test when children's perceptions were added to the model. Grade was also included in this model as a covariate of no interest. For the higher risk group, however, neither parents' reports of their academic expectations for their children nor children's perceptions of those expectations (both represented by composite

scores) were significantly related to reading achievement measures at a significance level of less than .05. Thus, Hypothesis 3 was not supported for the lower or higher risk group. All results can be found in Table 6.

Table 6

Contributions of Parents' Reported Academic Expectations and Children's Perceptions to Reading Achievement within the Same Model

Reading Achievement	Parents' Reports			Children's Perceptions		
	<i>df</i>	<i>F</i>	<i>p</i>	<i>df</i>	<i>F</i>	<i>p</i>
	Type III SS			Type III SS		
OVERALL SAMPLE						
WJ-III ( <i>n</i> = 94)	(2, 91) <sup>a</sup>	12.78	.0006	(2, 91)	1.02	.3147
EOG ( <i>n</i> = 87)	(4, 82) <sup>b</sup>	17.19	<.0001	(4, 82)	.00	.9773
LOWER RISK						
WJ-III ( <i>n</i> = 64)	(2, 61)	1.64	.2050	(2, 61)	.82	.3695
EOG ( <i>n</i> = 62)	(3, 58) <sup>c</sup>	10.21	.0023	(3, 58)	.03	.8602
HIGHER RISK						
WJ-III ( <i>n</i> = 30)	(2, 27)	.79	.3832	(2, 27)	.35	.5581
EOG ( <i>n</i> = 25)	(2, 22)	1.44	.2428	(2, 22)	.03	.8544

<sup>a</sup>*R*<sup>2</sup> for model =.17. <sup>b</sup>*R*<sup>2</sup> for model =.34. <sup>c</sup>*R*<sup>2</sup> for model =.32.

*Hypothesis 4: Realistic expectations for report card grades in reading are predicted to be the best predictors of reading achievement in the overall sample, and in the lower and higher risk groups.*

*Overall sample.*

Due to the large number of parent expectation and child perception variables discussed in this section (e.g. all questions used in this study on the parent expectation and child perception measures), variables will be referred to by their item number on the

measures located in Appendix D preceded by a P if it is an item on the parent measure and a C if it is an item on the child perception measure.

A correlation analysis for the overall sample between the individual expectation variables and measures of reading achievement yielded significant results between the following items and reading achievement: (1) parents' reports of their ability estimates for their children's report card grades in reading, assessed with the question, "What grades do you think your child CAN get in reading on his/her final report card this year?" (P4); (2) Parents' reports of their realistic expectations for their children's report card grades in reading, assessed with "What grades do you EXPECT your child to get in reading on his/her final report card this year?"(P5); (3) Parents' estimates of their children's reading performance as compared to peers, assessed with the question, "How well does your child read compared to other children in his/her class?" (P10); (4) Parents' expectations for their children's reading performance as compared to peers (P11: "How good do you expect your child to be in reading this year compared to other children in his/her class?"); (5) Parents' expectations for how much their child will like reading this year as compared to peers, assessed by asking, "How much do you expect your child to like reading this year compared to other children in his/her class?" (P16). Additionally, children's perceptions of parents' estimates of children's reading performance (C7) were significantly related to both measures of reading achievement. It should be noted that C7 is the equivalent question to P10 identified above, but asked from the child's perspective. For example, C7 asks, "How well does your mom/dad think you read compared to other students in your class?" All correlations were significant at a  $p$  value  $<.002$ , as a Bonferroni correction was applied (.05 divided by 22, number of individual variables included in the correlation analysis). Results

were the same when WJ-III Broad Reading Cluster scores were used as the outcome variable as when developmental scaled scores on the EOG Reading Comprehension Test were used. All correlations discussed here can be found in Appendix F, which contains correlations between parent expectation items and reading achievement, as well as between child perception items and reading achievement.

All expectation variables significantly related to reading achievement were entered into a Stepwise procedure predicting reading outcome; one model used WJ-III Broad Reading Cluster as the dependent variable and the other used the EOG Reading Comprehension Test. Socioeconomic status as well as grade was entered into the Stepwise predicting developmental scale scores on the End of Grade Reading Comprehension Test for the overall sample. Parents' estimates of their children's reading performance as compared to peers (P10), children perceptions of parents' reports of these estimates (C7), and parents' ability estimates of their children's report card grades in reading (P4) were all significantly related to the WJ-III Broad Reading Cluster at a  $p$  value of less than .05. Only parents' estimates of their children's reading performance as compared to peers (P10) were significant in predicting End of Grade Reading Comprehension scores, along with grade and socioeconomic status. Table 7 includes the results of the Stepwise Procedure for the overall sample.

An omnibus stepwise procedure was also carried out, which included ALL expectation variables, and the appropriate covariates. In addition to significant contributions of P10, C7, and P4, parents' idealistic expectations for their children's future educational attainment (P9: Do you WANT your child to finish high school, go to Technical or specialty school, college, more school after college?) also significantly contributed to scores of the

WJ-III. This is interesting given the correlation between this item and scores on the WJ-III was nonsignificant ( $r = -.16, p = .1238, n = 94$ ). Similarly for the EOG, parents' estimates of their children's reading performance as compared to peers (P10), grade, and socioeconomic status remained significant contributors along with parents' idealistic expectations for their children's future educational attainment (P9). Again, the correlation between this item and developmental scaled scores of the EOG was nonsignificant ( $r = -.17, p = .1263, n = 87$ ). Results of these Stepwise Procedures can also be found in Table 7.

Based on the results of these two different Stepwise Procedures, Hypothesis 4 was not supported in the overall sample. While parents' reports of their realistic expectations for their children's report card grades in reading (P5) were significantly related to reading achievement outcome measures, they did not come out as the best predictor of reading achievement when the Stepwise Procedure was done.

Table 7

Results of the Corrected and Omnibus Stepwise Procedures for the Overall Sample  
Predicting WJ-III and EOG Scores

WJ-III ( $n = 94$ )								
Expectation Variables	<u>Corrected Stepwise</u>				<u>Omnibus Stepwise</u>			
	Partial $R^2$	Model $R^2$	$F$	$p$	Partial $R^2$	Model $R^2$	$F$	$p$
P10	.36	.36	51.55	<.0001	.36	.36	51.55	<.0001
P4	.07	.43	11.30	.0011	.07	.43	11.30	.0011
C7	.05	.48	8.07	.0056	.05	.48	8.07	.0056
P9					.04	.51	6.64	.0116



EOG ( <i>n</i> = 87)								
Expectation Variables	<u>Corrected Stepwise</u>				<u>Omnibus Stepwise</u>			
	Partial	Model	<i>F</i>	<i>p</i>	Partial	Model	<i>F</i>	<i>p</i>
	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup>			<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup>		
P10	.36	.36	48.17	<.0001	.36	.36	48.17	<.0001
Grade	.07	.43	10.84	.0015	.07	.43	10.84	.0015
SES <sup>a</sup>	.07	.51	11.92	.0009	.07	.51	11.92	.0009
P9					.03	.54	5.91	.0172

<sup>a</sup>SES = socioeconomic status.

### *Lower risk sample.*

The correlation analysis between measures of expectations and reading achievement for the lower risk group revealed that parents' estimates of their children's reading performance as compared to peers (P10) was significantly related to reading achievement measured by the WJ-III, using a Bonferroni correction to determine level of significance. This variable (P10) was also significantly related to developmental scale scores on the EOG Reading Comprehension Test. Parents' expectations for their children's reading performance as compared to peers (P11: "How good do you expect your child to be in reading this year compared to other children in his/her class?") and parents' reports of their realistic expectations for their children's report card grades in reading (P5: "What grades do you EXPECT your child to get in reading on his/her final report card this year?") were also significantly related to scores on the EOG. In addition, children's perceptions of how much their parent thinks they will like reading this year compared to their peers (C13: How much does your mom think you will like reading this year compared to other students in your class?) were also significantly related to developmental scale scores on the EOG. Correlations can be found in Appendix F.

Since only one variable was significantly related to scores on the WJ-III, only an omnibus stepwise procedure was done predicting WJ-III performance. Results revealed that parents' estimates of their children's reading performance as compared to peers (P10) along with children's perceptions of these estimates (C7) were significant predictors.

When all items significantly related to EOG Reading Comprehension scores were entered into a Stepwise Procedure, along with grade, parents' estimates of their children's reading performance compared to peers (P10) and children's perceptions of how much their parent thinks they will like reading this year compared to their peers (C13) were significant contributors in addition to grade. An omnibus stepwise procedure predicting EOG revealed that the same variables were significant predictors; however, parents' idealistic expectations for children's future educational attainment (P9) were also found to be a significant contributor.

Based on the results from the Stepwise procedures, Hypothesis 4 was not supported for the lower risk group. Results of the Stepwise Procedures can be found in Table 8.

Table 8

Results of the Corrected and Omnibus Stepwise Procedures for the Lower Risk Sample  
Predicting WJ-III and EOG Scores

Expectation Variables	WJ-III ( <i>n</i> = 64)							
	<u>Corrected Stepwise</u>				<u>Omnibus Stepwise</u>			
	Partial <i>R</i> <sup>2</sup>	Model <i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>	Partial <i>R</i> <sup>2</sup>	Model <i>R</i> <sup>2</sup>	<i>F</i>	<i>p</i>
P10	.15	.15	11.32	.0013	.15	.15	11.32	.0013
C7					.08	.23	6.26	.0151

EOG ( $n = 62$ )								
Expectation Variables	<u>Corrected Stepwise</u>				<u>Omnibus Stepwise</u>			
	Partial	Model	$F$	$p$	Partial	Model	$F$	$p$
	$R^2$	$R^2$			$R^2$	$R^2$		
P10	.29	.29	24.56	<.0001	.29	.29	24.56	<.0001
Grade	.20	.49	23.19	<.0001	.20	.49	23.19	<.0001
P9					.05	.54	6.14	.0161
C13	.03	.52	4.02	.0495	.05	.59	6.84	.0114

*Higher risk sample.*

Of the expectation variables examined in the correlation analysis, only parents' reported expectations for how much their child would like reading this year compared to peers (P16) were significantly related to reading achievement, as measured by the WJ-III Broad Reading Cluster ( $r = .63$ ,  $p = .0002$ ,  $n = 30$ ) for the higher risk group. Expectation variables were not significantly related to children's performance on the End of Grade Reading Comprehension Test at a significance level of .002 or below (a Bonferroni correction was used); however, it should be noted that P16 was related to EOG at a  $p$  value of .0046 ( $r = .55$ ,  $n = 25$ ).

Since only one variable was significantly related to scores on the WJ-III, only an omnibus stepwise procedure was done predicting WJ-III performance. Results were similar to the correlation analysis, where only P16 was significantly related to scores on the WJ-III (Model  $R^2 = .39$ ,  $F(1, 28) = 18.02$ ,  $p = .0002$ ). Hypothesis 4 was not supported in the higher risk group.

## CHAPTER V

### Discussion

#### *General Conclusions*

The purpose of the present study was to examine how parents' academic expectations for their children and children's perceptions of them are related to the reading achievement of elementary school students, and how these relationships may differ for children at varying risk for poor reading achievement. Its particular interest in examining parents' academic expectations in a group of higher risk readers was an attempt to help inform parents of the relationship between the beliefs/standards they convey to their children and children's actual achievement in order to better focus intervention efforts for these children.

The results of this study suggest that for third and fourth grade students, parents' reports of their academic expectations for their children are a more significant predictor of children's reading achievement than are children's perceptions of these expectations. In fact, parents' reported expectations, represented by a composite score, are significantly related to current and end of year reading achievement, as measured by the WJ-III and End of Grade Reading Comprehension Test, respectively, for the overall sample. For the lower risk group, however, parents' reported expectations are only related to scores on the EOG, and not related to the reading achievement of the higher risk group. Interestingly, when individual items assessing parents' academic expectations are examined (in contrast to composite scores), significant relationships emerge between parents' reports, children's perceptions, and

reading achievement for these subgroups. More specifically, of the different definitions of parents' academic expectations, parents' ability estimates are the best predictors of children's achievement for the general and lower risk samples, while parents' expectations for how much their child will like reading is the best predictor of reading achievement for higher risk students. Below is a more in depth discussion of the results in relationship to the proposed hypotheses.

### *Discussion of Hypotheses*

*Hypothesis 1. Parents' academic expectations for their children and children's perceptions of them are predicted to be positively related to one another in the overall sample and in the lower and higher risk groups.*

Results of this study for the overall sample and lower risk group are fairly consistent with those of other researchers who have examined the correlation between parents' academic expectations for their children and children's perceptions of those expectations (Davies & Kandel, 1981; Patrikakou, 1997). The similarity of the current study's findings to others is interesting given the different ages of the samples. While the two studies cited included adolescents, the current study included elementary school students, suggesting that even children in the third and fourth grades are able to accurately perceive their parents' academic expectations to some extent. The similarity in results is also interesting given the expanded measure of expectations used in this study compared to the single-question approach used in the other studies. More specifically, Davies and Kandel (1981), as well as Patrikakou (1997) only measured parents' expectations for children's future educational attainment, while this study used a composite score comprised of parents' expectations for children's reading performance, report grades in reading, and future educational attainment.

In contrast to the overall sample and lower risk group, however, there was not a significant relationship between parents' academic expectations for their children and children's perceptions among the higher risk group. This result is also discrepant from Patrikakou's finding of a significant correlation between parents' reports and adolescents' perceptions within a sample of eighth grade students with learning disabilities. As discussed previously, however, it is unclear how much Patrikakou's sample of students with learning disabilities differed from her sample of adolescents without learning disabilities, given that students were classified as "learning disabled" based on parents' response to the question, "Has your eighth grader ever received special services for a specific learning problem?" (Patrikakou, 1996, p. 439). The insignificant correlation in this study could be a result of the smaller sample size of this group, but another possibility is that the nonsignificant relationship between parents' academic expectations and children's perceptions could accurately reflect the struggle parents of poorer readers this age may have in forming and communicating their expectations and or the conflict these children may experience in accepting them.

*Hypothesis 2a. For the overall sample, the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

In support of Hypothesis 2a, the relationship between parents' academic expectations and reading achievement was found to be linear and positive. This finding is consistent with past research showing that parents' academic expectations are important in the prediction of primary school children's reading achievement (Castro, Lubker, Bryant, & Skinner, 2002;

Entwisle & Alexander, 1996; Entwisle, Alexander, Pallas, & Cadigan, 1988; Halle, Kurtz-Costes, & Mahoney, 1997; Phillips, 1992).

Children's perceptions of their parents' academic expectations, however, were only significantly related to scores from the WJ-III Broad Reading Cluster in contrast to the EOG. This result could be due to the differences in these measures as well as the timing of the administration. More specifically, while the WJ-III Broad Reading Cluster is an individually administered, standardized assessment of word reading, reading fluency, and reading comprehension, the EOG is a group administered, curriculum-based test given at the end of the school year, which evaluates reading comprehension skills. Thus, it could be that children's perceptions of parents' expectations are more highly related to the broad reading skills assessed on the WJ-III than the more specific content on the EOG. Another explanation, however, could be that children responded to questions regarding their parents' expectations based on their own perception of their reading performance, which may have changed by the end of the year. Thus, one could understand the significant relationship between children's perceptions of their parents' academic expectations and scores on the WJ-III, as these measures were given at the same time.

Several researchers examining children's perceptions have found them to have a significant influence on achievement (Fejgin, 1995; Gill & Reynolds, 1999; Kaplan, Liu, Kaplan, 2001; Patrikakou, 1996, 1997; Seginer, 1985; Teachman & Paasch, 1998); however, these studies have only included secondary school students. It may be that older students have a more developed and consistent perception of their parents' expectations regardless of which skills are assessed and whether their current or future achievement is considered.

*Hypothesis 2b. For children at lower risk for poor reading achievement (the better readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be linear and positive, as is the relationship between children's perceptions and reading achievement.*

Interestingly, when these relationships were examined in the lower risk group exclusively, parents' reports of their academic expectations were only significantly related to scores on the End of Grade Reading Comprehension Test, while children's perceptions were no longer related to reading achievement at all. The differences in results between the lower risk group and the overall sample could be the result of the smaller sample size of the lower risk group. However, the question of why parents' reported expectations are more significantly related to scores on the EOG than W-III still remains. Differences in these measures may again be helpful to consider. More specifically, the EOG is a curriculum-based achievement test specifically aligned to the North Carolina *Standard Course of Study*, while the WJ-III is based on national norms. Assuming that parents' expectations are based on children's actual performance, it would make sense that a child's performance on the EOG may be more closely related to the child's performance parents' observe throughout the child's schooling.

*Hypothesis 2c. For children at higher risk for poor reading achievement (the poorer readers), the relationship between parents' academic expectations for their children and children's reading achievement is predicted to be curvilinear, as is the relationship between children's perceptions and reading achievement. That is, within this group, both higher and lower expectations are predicted to be associated with lower reading achievement.*



Within the higher risk group, parents' academic expectations for their children were not linearly related to either measure of reading achievement, nor were children's perceptions of those expectations. This holds true when nonlinear relationships were examined as well. While this hypothesis was exploratory given that few studies have examined the relationship between parents' academic expectations (reported and perceived) and the reading achievement of students at higher risk for poor reading, past research including students with learning disabilities has concluded that parents' academic expectations are important contributors to children's achievement (Feagans, Merriwether, & Haldane, 1991; Patrikakou, 1996; Switzer, 1990; Tollison, Palmer, & Stowe, 1987). Therefore, the nonsignificant relationship between parents' academic expectations and these young children's reading achievement is surprising.

Differences in results of the current study and past research may be a reflection of the different measure used in this study. More specifically, in this analysis parents' academic expectations (reported and perceived) were represented by a composite score, including expectations for children's general reading performance, report card grades in reading, and future educational attainment, while other researchers have used a single question focused on one of these areas of academic expectations. While a contribution of this study to the academic expectations literature is the expansion of the expectations measure, these results may suggest that the cumulative score contains a number of items that are simply not sensitive to the outcome measures of interest for this group. Analyses discussed when addressing hypothesis four in fact do suggest a significant relationship between one measure of expectations and current reading achievement.

On the other hand, these results could be an accurate reflection of the relationship between parents' expectations and the reading achievement of this higher risk group, suggesting that something different may be important in relation to these children's reading performance. For example, parents' behaviors around school related issues, and reading specifically, may be more important to poorer readers' achievement than the beliefs/expectations parents hold. More specifically, parents' involvement in school and reading practices at home have been found to be significantly related to children's achievement. In addition, parents of poorer readers could still be struggling to formulate their academic expectations and how they communicate them to their children; thus, leading to a nonsignificant relationship between parents' expectations (reported and perceived) and the reading achievement of elementary school aged poor readers.

*Hypothesis 3. Children's perceptions of parents' academic expectations will explain significantly more of the variance in reading achievement than will parents' reports in the overall sample, and in the lower and higher risk groups.*

This hypothesis was not supported in the overall sample or in the lower and higher risk groups. Interestingly, in a model of only children's perceptions, children's perceptions significantly contributed to WJ-III Broad Reading Cluster scores for the overall sample. However, when children's perceptions were included in a model with parents' academic expectations, children's perceptions did not predict any additional variance in reading achievement.

The nonsignificant role of children's perceptions in the prediction of reading achievement for this sample of third and fourth grade students is unexpected, given the particularly significant role of children's perceptions in the prediction of secondary school

students' achievement, even more powerful than that of parents' expectations (Davies & Kandel, 1981, Patrikakou, 1996, 1997). These discrepant results likely represent the different developmental stages of these two groups of students. For example, elementary school age students may not have a well-developed or accurate sense of their parents' expectations yet. This is a question for future investigation.

*Hypothesis 4. Realistic expectations for report card grades in reading are predicted to be the best predictors of reading achievement in the overall sample, and in the lower and higher risk groups.*

As discussed in the literature review, researchers use different definitions, and thus different measures, of parents' academic expectations and children's perceptions of them. Most researchers measure parents' academic expectations (reported and perceived) with one or two questions that focus either on children's current academic performance or their future educational attainment. One contribution of the present study was the inclusion of the various definitions of expectations. More specifically, parents' expectations for children's general reading performance, as well as parents' realistic and idealistic expectations for children's report card grades in reading and future educational attainment were assessed. Parents' ability estimates in these domains were also included, as some researchers define what parents think their children can do as an expectation as well (i.e. Entwisle & Alexander, 1996; Entwisle, Alexander, Pallas, & Cadigan, 1988; Entwisle & Hayduk, 1988).

In order to determine whether these different methods for defining parents' academic expectations were differentially related to reading achievement, each item's relationship to reading achievement was assessed. Previous analyses in the present study used a composite of these items to represent parents' academic expectations and children's perceptions of

them. As explained above, however, the composite measures were not very powerful predictors of children's reading achievement when examining the lower and higher risk groups. However, when relationships were examined between individual items and reading achievement, important information was revealed for all samples.

Although many of the expectation items were found to be significantly related to reading achievement, a few items explained most of the variance in reading achievement, however measured. More specifically, parents' ability estimates of their children's reading performance compared to peers were found to be most significant to children's reading achievement for the overall sample and lower risk group. This item alone accounted for more of the explained variance in WJ-III and EOG scores than the composite score of parents' academic expectations for both the overall sample and the lower risk group. In fact, parents' reports of their ability estimates for their children's reading performance was the only significant expectation variable in predicting developmental scaled scores on the EOG. While children's perceptions of these estimates, and parents' ability estimates of children's report card grades in reading also contributed to scores on the WJ-III for the overall sample, each of the significant items, two asked of parents and one of children, refers to ability estimates of current reading performance. In the lower risk group, only parents' ability estimates of their children's reading performance compared to peers presented as a significant predictor of reading achievement, in both the WJ-III and EOG models. Thus, parents' ability estimates for current reading performance remains the best predictor of reading achievement, even in the lower risk group.

The important contribution of parents' ability estimates for the overall and lower risk group is not surprising, as they elicit parents' assessment of their child's current reading

performance and are realistic in nature. Thus, one would expect them to be related to children's actual performance. While this result does support that parents are accurate perceivers/predictors of children's actual reading achievement, it does not really reveal much about the influence of their expectations beyond their realistic assessment of their child. It is believed that this influence is better captured in parents' response to, "What grades do you expect your child to get in reading on his/her final report card?" as this question asks parents to go beyond their perceptions of their child's performance and report on their expectations, defined as either their predictions or the standard with which they would be satisfied. This is perceived as the more interesting question from an intervention point of view, as the relationship between what parents' expect (in contrast to their assessment) could reveal information about the standards parents place on their children and thus the support or pressure children are receiving in their families. This question was in fact highly correlated with children's reading achievement within the overall sample and with scores on the End of Grade Reading Comprehension Test for the lower risk group, but did not contribute any additional variance to achievement beyond that of parents' ability estimates.

Interestingly, when a less conservative threshold of significance is used, parents' idealistic expectations for children's future educational attainment becomes a significant predictor of scores on both the WJ-III and EOG for the overall sample, and only scores on the EOG for the lower risk group. It appears that parents' hopes for their children's future educational attainment reveals important information about parents' attitudes regarding education and possibly their academic supporting behaviors. More specifically, parents' with higher hopes/dreams for their children's future educational attainment may be conveying the importance of education to their children and or be more involved in their children's

academic pursuits, although children's higher reading achievement could be influencing this hope/dream as well.

Another interesting finding that emerged when a less conservative threshold was used includes the significant contribution of children's perceptions of how much their parent thinks they will like reading to scores on the EOG for the lower risk group. This contribution is particularly noteworthy given that parents' reports of this question were not a significant predictor of reading achievement in this group. Furthermore, there was not a significant relationship between children's perceptions and parents' report of this item. Perhaps these children are actually reporting their own feelings on how much they like reading, which is different from that of their parents' perception and likely more powerful as well.

Most interesting, however, is the finding that only parents' response to the question, "How much do you expect your child to like reading this year compared to other children in his/her class?" is significantly related to the reading achievement of the higher risk group. In fact, parents' response to this question alone accounted for 39% of the variance in WJ-III Broad Reading scores and 29% of the variance in scores on the EOG Reading Comprehension Test. Parents' expectations in other areas were not significantly related to achievement for this group. What is it about this question that made it the only significant expectation variable for this group of students in particular? Perhaps it was difficult for parents to accurately report their expectations in other areas since they included admitting to children's difficulties, while this question may have seemed unrelated. It could also be that parents of poorer readers may not have established thoughts and or beliefs regarding children's reading achievement, as they may be hoping their child's performance will change over time, as children in this sample are still young in their school careers.

The finding that parents' response to this question was significantly related to the reading achievement of the poorer readers, while children's perceptions of how much their parent thinks they will like reading was significantly related to the reading achievement of better readers is puzzling. Why is it that parents' reports are significantly related to the reading achievement of poorer readers, while children's perceptions are significantly related to the reading achievement of lower risk readers? Some possible explanations could be that poorer readers this age are not ready to admit their dislike of reading, which may be more extreme than the dislike of a better reader, and thus they are not accurately reporting their parents' perception and or their own thoughts. It could also be that parents of better readers do not assume that their child dislikes reading, while the parent of a poorer reader may hold onto this belief as an explanation for the child's poorer reading. Regardless of the reason, these results suggest that the expectation for how much children like reading warrants further exploration. It appears that clinicians and researchers can learn about children's reading achievement by asking about a child's enjoyment of reading, whether it is via parents' reports for higher risk readers or children's perceptions for lower risk readers.

Taken together, these results reinforce the importance of examining various definitions of parents' academic expectations in one study, and unmasking important information hidden in composite scores.

### *Limitations*

The generalizability of this study is limited in that it included a sample of convenience. Therefore, there was not an accurate representation of minority students. While the original sample of all third and fourth grade students ( $n = 143$ ) resembled national averages as reported in the US Census of 2003, the sample of children whose parents agreed

to participate in the study had a substantially lower number of Hispanics (6%). Language and cultural differences are two barriers that may have prevented these parents from participating.

Another limitation of the sample includes the size of the higher risk group. While the sample size was adequate to detect trends in the data, ideally, one would be able to oversample students at higher risk for poor reading achievement in order to ensure enough statistical power to detect even slight differences between students at higher and lower risk for poor reading. In addition, some might argue that including students with reading achievement below the 34<sup>th</sup> percentile was not stringent enough, and that a lower cut off may have created a more affected sample, possibly yielding different results. This study also included students with reading ‘difficulties’ who may or may not qualify as a student with a learning disability in reading. Thus, one must be cautious when generalizing these results to students with reading ‘disabilities,’ as well as to students with learning difficulties more generally, as difficulties in different areas of learning may affect parents’ beliefs and attitudes differently.

In addition, while data was collected from fathers, only primary caretaker data was analyzed in this study given the small number of fathers who agreed to participate,  $n = 36$ . Thus, the parent sample consisted of 91 female and 3 male caretakers. Future studies examining parents’ academic expectations would benefit from including data collected from fathers, as there may be differences between mothers and fathers’ reported academic expectations, as well as interesting effects of these differences for a child that would be worthwhile to explore.



It is also important to consider that while this study attempted to expand on the measures of expectations used in previous research, questions were mainly devised through a comprehensive search of the literature, and only a small field test on ten third and fourth grade children. The results of this study appear to suggest that a more comprehensive measure of expectations is warranted, as different sets of expectations may distinguish children at lower and higher risk for poor reading achievement. Therefore, it is recommended that a pilot study be done on a more comprehensive measure of expectations in order to create a valid, reliable, and sensitive measure of expectations. It is particularly important to clarify how one defines “expect” due to the different connotations of the word. More specifically, while some define “expect” as what one predicts, others define “expect” as a standard one has set.

An additional limitation of the study was that the primary ‘outcome’ measure of reading achievement was collected at the same time as measures of expectations, disallowing the opportunity to speculate about causal relationships. While the End of Grade Reading Comprehension Test represented an end of the year measure of reading achievement, one is unable to know whether the difference in results between the WJ-III Broad Reading Cluster scores and the EOG Reading Comprehension scores are due to the differences in measures (e.g. administration and scoring of measures as well as reading skills assessed) or to the time of administration. In addition, given that teachers received the children’s data from the PAR and W-III at the beginning of the school year and the EOG Reading Comprehension Test was administered during the last few weeks of school, it is likely that children identified with reading needs received the appropriate intervention throughout the year, which may have influenced their achievement on the EOG. It is difficult to control for all interventions

children receive both inside and outside of school, which may have influenced their end of year achievement.

Lastly, while this study focused specifically on the contribution of parents' academic expectations (reported and perceived) to the reading achievement of elementary school children, there are many other variables significantly related to children's reading achievement, which might have helped explained the variance not accounted for in this study. For example, teachers' academic expectations have been shown to be an important contributing variable to students' academic achievement (Gill & Reynolds, 1999) as well as students' own academic expectations (Patrikakou, 1996). In addition to parents, teachers, and students' attitudes/beliefs, academic supporting behaviors have also been found to be significantly related to students' achievement, including parents' involvement in school (Christenson, Rounds, & Gorney, 1992; Singh et al., 1995), home-based literacy practices (Hess, Holloway, Price, & Dickson, 1982), teachers' instruction (Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998), and students' study habits (Patrikakou, 1996). Parents' academic expectations were chosen as the focus of this study given its longstanding importance to children's achievement along with the dearth of research examining children's perceptions of parents' academic expectations in elementary school aged children, and in children with reading difficulties. As mentioned, it was the goal of this study to help explore research questions and hypotheses that would contribute new knowledge to the literature on parents' academic expectations, and to the many professionals working with families in creating supportive environments for children's academic pursuits.

### *Future Directions*

The results of this study serve to inform future directions for research in the area of parents' academic expectations. As indicated, parents have an important influence on children's cognitive, social, and emotional development, and thus as researchers we have some responsibility to help guide parents in these efforts. Parents' academic expectations is one area in which parents could influence children's development, and understanding how parents can do so in a supportive way seems to be an important goal for future research. Thus, longitudinal studies examining the influence of parents' academic expectations on children's achievement for both typically achieving and higher risk students are needed. Additionally, the relationship between parents' academic expectations and children's mental health (e.g. self esteem, anxiety, and depression) should also be examined as another possible source of influence.

Future research in the area of academic expectations would also benefit from the use of a more extensive measure of parents' academic expectations, as different definitions of parents' academic expectations were shown to be differentially related to the reading achievement of the lower and higher risk groups. Research focused on creating a psychometrically valid measure of expectations would benefit the field and increase confidence in the strength, and thus the applicability of findings.

Future work should also include larger samples of well-defined children at high risk for poor reading achievement. The dearth of research including children with learning difficulties is disappointing given the struggles these children encounter on both an academic and social-emotional level. Helping parents support their children with the appropriate expectations seems important.

Despite the large body of research examining the relationship between parents' academic expectations and children's achievement, this continues to be an area of importance, which needs further research based on current samples including students with varying learning difficulties, and that uses precise definitions, as well as comprehensive and well-established measures. In addition, an examination of children's perceptions should continue to be pursued in the same studies as parents' reports in order to decipher children's impressions of their parents' expectations.

## Appendix A:

### Measures of Academic Expectations Used in the Literature

Reference	Year	Age of Sample	Student Sample	PE	Measure of PE administered	CPE	Measure of CPE
<i>Boersma &amp; Chapman</i>	1982	3 <sup>rd</sup> grade ( <i>n</i> = 143)	LD & TA	*	Projected Academic Performance Scale		
<i>Castro, Lubker, Bryant, &amp; Skinner</i>	2002	1 <sup>st</sup> grade ( <i>n</i> = 137)	TA	*	Parent expectations for child's future educational attainment (high school or less, technical, and university)		
<i>Chapman &amp; Boersma</i>	1979	3 <sup>rd</sup> thru 6 <sup>th</sup> grade ( <i>n</i> = 162)	LD & TA	*	Projected Academic Performance Scale		
<i>Christenson</i>	1990	2 <sup>nd</sup> thru 5 <sup>th</sup> grade ( <i>n</i> = 68)	LD, BED, EMR, TA	*	Mother or both parents: "How much education do you really expect - to receive?" "How much education do you want - to receive?"		
<i>Dandy &amp; Nettelbeck</i>	2002	6 and 14 years ( <i>n</i> = 239)	TA	*	Parents' standards for their child's academic performance: - Parents indicated what score they thought their child would be likely to achieve (expected score) on a hypothetical math and spelling test and what score they would be satisfied with their child achieving (satisfied score)  Parents' educational aspirations: - Parents indicated which of 6 post-secondary activities they would prefer their child to engage in.		

<i>Dandy &amp; Nettelbeck</i> (continued)					- Parents also indicated how much formal education they would like their child to complete (preferred attainment) and the amount of education they thought their child was likely to complete (expected attainment)		
<i>Davies &amp; Kandel</i>	1981	High School ( <i>n</i> = 762)	TA	*	Parental educational aspirations for adolescent, coded as the highest number of years of schooling aspired to. Levels included less than high school; high school graduation; some college or technical school; college graduation; and graduate school	*	Perceived parental aspirations, coded as the highest numbers of years of schooling parents were seen to desire for the adolescent
<i>Entwisle &amp; Alexander</i>	1996	Beginning School Study, 1 <sup>st</sup> & 2 <sup>nd</sup> grade (math: <i>n</i> = 391) (reading: <i>n</i> = 383)	TA	*	Parent (usually mother): 1. Guess the marks their child would receive on their first report card in 1st grade = expectations for the child's first mark each fall in reading and math, 2. Parents rated their child's ability to do schoolwork on a scale from 1-5 = estimate of the child's ability to do schoolwork each fall		
<i>Entwisle, Alexander, Pallas, &amp; Cadigan</i>	1988	Beginning School Study, 1 <sup>st</sup> grade ( <i>n</i> = 676)	TA	*	Parent's ability estimate: "How do you think your child compares with other children in his/her school in terms of ability to do school work?" Responses were coded from 5 (among the best) to 1 (among the poorest)		

<i>Entwisle, Alexander, Pallas, &amp; Cadigan</i> (continued)					Parent's expectations: Parents provided their "best guesses" for their child's first mark in reading and mathematics: 4 for excellent, 3 for good, 2 for satisfactory, & 1 for unsatisfactory		
<i>Entwisle &amp; Hayduk</i>	1988	1 <sup>st</sup> thru 3 <sup>rd</sup> grade students followed 4 to 9 years later	TA	*	Mother's Expectation: 1. Indicate her expectations for her child's mark in reading, arithmetic, & conduct shortly before report cards were issued in fall of 1 <sup>st</sup> , 2 <sup>nd</sup> , and 3 <sup>rd</sup> grade Mother's estimate of the child's general ability: 2. "How do you rate your child in school ability compared with other children in this school?"= (Coded 1=among best to 5=among poorest)		
<i>Fejgin</i>	1995	NELS-88, 10 <sup>th</sup> grade (n = 835)	TA			*	Parents' educational expectations as perceived by the students = the mean number of years beyond or below high school that both parents expect the student to complete, as perceived by the student
<i>Gill &amp; Reynolds</i>	1996	Chicago Longitudinal Study, 6 <sup>th</sup> grade (n = 745)	TA	*	Parents' expectations for child's future success: "How far in school do you think your child will get?" Response choices on a 7 point Likert type scale	*	Children rated their perceptions of parent expectations "My parents expect me to do well in school" on a 4 point scale (1 = strongly agree, 4 = strongly disagree)
<i>Gill &amp; Reynolds</i>	1999	Chicago Longitudinal Study, 6 <sup>th</sup> grade (n = 712)	TA	*	Parents rated their expectations on a 4 point scale (1=graduate from high school; 2 = some college; 3 = complete 4-year college degree; 4 = go to graduate school or complete graduate degree	*	Children rated their perceptions of parent expectations "My parents expect me to do well in school" on a 4 point scale (1 = strongly agree, 4 = strongly disagree)

<i>Goldenberg, Gallimore, Reese, &amp; Garnier</i>	2001	Kindergarten thru the beginning of 6 <sup>th</sup> grade ( <i>n</i> = 81)	TA	*	Parents aspirations (ideal level) and expectations (realistic level) for children's educational attainment Aspiration: "How far do you want your child to go in his/her formal schooling?" Expectation: "How far do you think your child will go in his/her formal schooling?" Response choices: (1) finish elementary, (2) finish middle school, (3) finish high school, (4) attend trade school, (5) attend university, or (6) finish university		
<i>Halle, Kurtz-Costes, &amp; Mahoney</i>	1997	3 <sup>rd</sup> and 4 <sup>th</sup> grade ( <i>n</i> = 41)	TA	*	Parents' expectations for their children's level of educational attainment: parents indicated the likelihood that the target child would complete 6 <sup>th</sup> grade, 9 <sup>th</sup> grade, 12 <sup>th</sup> grade, at least 2 yrs of college, and all 4 years of college. Responses were coded on a 5 point scale ranging from 1 (highly unlikely) to 5 (highly likely) for each educational level, and the scores were summed across the 5 items to yield a single parental expectations measure		
<i>Kaplan, Liu, &amp; Kaplan</i>	2001	11-15 years ( <i>n</i> = 1864 parents and their age-eligible biological children)	TA			*	Perceived parental expectations "How far do your parents really expect you to go in school?" 1 = Some high school, 2 = High school, 3 = Technical school, 4 = Some college 5 = Junior college, 6 = 4 year college 7 = professional degree



<i>Marjoribanks</i>	1987	11 years ( <i>n</i> = 928)	TA	*	Parents Aspirations: 1. How much education do you really expect your child to receive? 2. What kind of job would you like your child to have after leaving school?		
<i>Mau</i>	1995	NELS-88, 8 <sup>th</sup> grade ( <i>n</i> = 24,599)	TA			*	Educational aspirations: “As things stand now, how far in school do you think your father and mother want you to get?” students recorded their perceptions for each parent separately, and the average score was used.
<i>Newman &amp; Cameto</i>	1993	National Longitudinal Transition Study of Special Education Students (NLTS), 13-21 years ( <i>n</i> = 8000)	All disabilities	*	Parental educational expectations: when children were in high school parents were asked to speculate about the future educational attainment of their children by reporting their perceptions of the likelihood that youth would graduate from a 2 or 4 year college		
<i>Patrikakou</i>	1996	NELS-88, 8 <sup>th</sup> grade ( <i>n</i> = 4193)	LD & TA	*	School-related parental expectations: “How far in school do you expect your 8 <sup>th</sup> grader to go?” 1=less than high school diploma to 12=Ph.D., M.D., or other advanced degree	*	Perception of parental expectations: “How far in school do you think your mother wants you to go?”
<i>Patrikakou</i>	1997	NELS-88, 8 <sup>th</sup> grade ( <i>n</i> = 5643)	TA	*	Parental expectations: “How far in school do you expect your 8 <sup>th</sup> grader to go?”	*	Perception of parental expectations: “How far in school do you think your mother wants you to go?” 1=less than HS graduation; 2=graduate from HS but go no further; 3=go to vocational, trade, or business school after HS; 4=attend a 2 year college; 5=attend a 4 year college

<i>Phillips</i>	1992	2 <sup>nd</sup> thru 6 <sup>th</sup> grade ( <i>n</i> = 180)	TA	*	Parents expectations: Parents were asked to predict how far their child would go in school on a scale from beginning high school through graduation from a four-year college		
<i>Reynolds &amp; Gill</i>	1994	Longitudinal Study of Children at Risk, 6 <sup>th</sup> grade ( <i>n</i> = 729)	TA	*	Parents' expectations for children's educational attainment: "How far in school do you think your child will get" Responses coded on a 4 point scale (1: graduate from high school; 2: some college; 3: complete 4 year college degree; 4: go to graduate school or complete graduate degree)		
<i>Seginer</i>	1985	7 <sup>th</sup> & 8 <sup>th</sup> grade ( <i>n</i> = 105)	TA			*	<p>Idealistic expectations: "My parents want me to be _" "It is extremely important for my parents that I_" A sentence completed by reference to higher education or the professions was scored 2. A sentence completed by reference to any other theme was scored 1.</p> <p>Realistic expectations: "My parents are satisfied when I get an A/B/C grade." "My parents are not satisfied when I get an A/B/C grade." Scores ranged from 1 ("not at all important to my parents") to 4 (A for the first item, and less than A for the second item) for each item.</p>
<i>Seginer, Cohen, &amp; Zukerman</i>	1987	1 <sup>st</sup> grade ( <i>n</i> = 70)	TA	*	<p>Educational expectations: Last term of boys Kindergarten year</p> <ol style="list-style-type: none"> <li>1. What kind of student do you expect - to be?</li> <li>2. What grades is - capable of achieving?</li> </ol>		

<i>Seginer, Cohen, &amp; Zukerman</i> (continued)					Answers ranged from very poor (1) to excellent (7) Toward the middle of the boy's first grade year 1. What grades do you want -to receive in his final report card? 2. What grades do you in fact expect-to receive in his final report card? 3. What do you consider to be a good/poor grade? Answers ranged from As, mainly As (4) to very low expectations or I dk		
<i>Seginer &amp; Vermulst</i>	2002	8 <sup>th</sup> grade (n = 686)	TA			*	Perceived mother and father academic expectations = What grade does your mother/father expect you to get in English/mathematics on your next report card? Responses ranged from 1 (insufficient) to 6 (excellent)
<i>Singh, Bickley, Trivette, Keith, &amp; Anderson</i>	1995	NELS-88, 8 <sup>th</sup> grade (n = 21,834)	TA	*	Parents' aspirations for children's education: How far in school parent expects child to go, coded 1=less than high school to 10=Ph.D., M.D.		
<i>Teachman &amp; Paasch</i>	1998	High School and Beyond Study, high school (n = 421)	TA			*	Student's perceptions of mother's expectations for educational achievement: 'How far in school do you think your mother wants you to go? Responses ranged from 1 (less than high school) to 9 (PhD or equivalent degree)
<i>Thompson, Alexander, &amp; Entwisle</i>	1988	Beginning School Study, 1 <sup>st</sup> grade (n = 689)	TA	*	Parent's general ability estimate: "How do you think your child compares with other children in his/her school in terms of ability to do school work?"		

<i>Thompson, Alexander, &amp; Entwisle</i> (continued)					Five response options ranged from “Among the best” (5) to “Among the poorest” (1) Parent’s expectations: best guess for their child’s first mark in reading and mathematics Response options corresponded to the marking system employed on report cards 4=excellent, 3=good, 2=satisfactory, 1=unsatisfactory		
<i>Tollison, Palmer, &amp; Stowe</i>	1987	2 <sup>nd</sup> thru 4 <sup>th</sup> grade ( <i>n</i> = 31)	LD & TA	*	Mother’s expectations: after each mother saw the experimental task and heard directions as to how it was to be presented, she was asked to rate how confident she was that her child would perform like other children his age. Mothers were asked to rate their confidence on an 11 point Likert-type scale, zero indicated no confidence and 10 indicated very confident		
<i>Trusty</i>	2000	NELS-88, 8 <sup>th</sup> grade to two years after high school ( <i>n</i> = 2265)	TA			*	Students’ perceptions of their parents’ expectations: 0=expectations were less than a bachelor’s degree 1=if expectations were for a bachelor’s or higher degree

*Note.* PE = parent expectations; Measure of PE = measure of parent expectations; CPE = children’s perception of parent expectations; Measure of CPE = measure of children’s perception of parent expectations; \* = measure was given; LD = learning disabilities; TA = typically achieving; Yrs = years; BED = emotionally/behaviorally disturbed; EMR = educable mentally retarded.

Appendix B:

Letter to Third Grade Parents & Statements of Informed Consent

**Cornatzer Elementary School**

552 Cornatzer Road  
Mocksville, NC 27028  
(336) 940-5097

**Barbara T. Owens**  
**Principal**

**Lynn C. Marrs**  
**Assistant Principal**

***“School and community---building bridges to the future”***

Dear Parent(s) or Guardian(s):

I am writing to inform you of an exciting project that will be taking place at Cornatzer Elementary School for the upcoming 2004-2005 school year! I have been working with a doctoral student, Michelle Stern, who is completing her training in School Psychology at the University of North Carolina at Chapel Hill. As part of her dissertation studying reading achievement in 3<sup>rd</sup> grade students, she has volunteered to administer individual reading assessments to all third grade students at **the beginning of the school year**. The assessments will help us identify the needs of each student and plan teaching methods accordingly. Ms. Stern has been doing research in the field of reading for the past seven years and currently works with Dr. Lynn Flowers and Dr. Frank Wood at Wake Forest University School of Medicine, who are well known for their contributions to the field of reading. Ms. Stern has also worked in school systems, outpatient clinics and hospitals helping to meet children's academic and emotional needs.

Starting in August, Ms. Stern will meet with each student and administer measures that examine reading skills and children's ideas about how well they are doing in school. Testing will be scheduled so that students are not missing important parts of class. Scores from this assessment do not affect students' grades. Unlike the End of Grade testing, the proposed testing will help us identify individual areas of strength and weakness at the very beginning of the school year.

**AS PART OF THIS PROJECT, WE ARE ASKING FOR YOUR PARTICIPATION!** Ms. Stern would like to conduct a 15 minute phone interview with each of you regarding your child's academic achievement. Enclosed you will find a *Statement of Informed Consent* for you to return to her if you are interested in participating. Each parent or guardian living in your home should complete the form if he/she is interested in participating. This form **must be returned by Monday, August 16, 2004**. She has included a stamped, self-addressed envelope so that you do not have to pay for postage. You may also drop your envelope in a drop box located in the main entrance hall outside the office labeled *Reading Research Project*. Your participation in the interview is voluntary and the information you provide will be confidential. Only Ms. Stern will know which parents have agreed to participate. Your decision to participate will not affect the services provided to your child by the school. At the conclusion of the study, Ms. Stern will present the study findings to all interested parents without identifying individual information.

Should you have any questions or desire further information, please call Michelle Stern at (919) 260-8331 or email her at Stern7035@aol.com. You may also contact Barbara Owens at (336) 940-5097.

We truly look forward to welcoming Michelle Stern to the Cornatzer team and hope that you will consider participation in this truly unique opportunity. Thank you in advance for your cooperation and support.

Sincerely,

Barbara Owens, Principal  
Cornatzer Elementary School

Michelle Stern, Doctoral Candidate  
University of North Carolina, Chapel Hill

This study has been reviewed and approved by the ACADEMIC AFFAIRS INSTITUTIONAL REVIEW BOARD (AA-IRB) at The University of North Carolina at Chapel Hill. You may contact the AA-IRB if you have questions or concerns about your rights, or your child's rights, as research participants at (919) 962-7761 or at [aa-irb@unc.edu](mailto:aa-irb@unc.edu).

## Statement of Informed Consent

### Introduction to the Study:

Each parent in the household is invited to participate in a research project studying factors related to the reading achievement of 3<sup>rd</sup> grade students. This project is part of the dissertation of Michelle Stern, a doctoral student in school psychology at the University of North Carolina at Chapel Hill, who has been working in collaboration with *Cornatzer Elementary School*.

From this research project, we hope to provide parents with knowledge on how to best support their children's academic progress. Understanding the factors related to the reading achievement of third grade students will provide parents and teachers with ways to improve children's reading achievement.

### What Will Happen During the Study:

- Asking parents to participate in a 15 minute phone interview at a time convenient for them.
- Each parent who decides to participate in the study first needs to complete the bottom of this form. The completed form should then be returned by mail in the self addressed envelope provided or in the drop box labeled *Reading Research Project* located at Cornatzer Elementary School in the main entrance hall outside the office.
- We ask that this form be returned by **AUGUST 16, 2004**.
- Michelle Stern will then call each parent who agrees to participate, confirm his/her willingness to participate, and conduct the interview.
- The interview consists of approximately 20 multiple choice questions.
- At the conclusion of the study, Michelle will do a presentation for all interested parents reporting the group results of the study. Individual information will NEVER be shared.
- If you have any questions or concerns about being in this study, please contact the investigator, Michelle Stern at (919) 260-8331 or at [Stern7035@aol.com](mailto:Stern7035@aol.com), the Dissertation Advisor, Lynn Flowers at (336) 716-2261 or the Dissertation Chairman, Rune J. Simeonsson at (919) 966-6634.

### Your Privacy is Important:

- We will make every effort to protect your privacy.
- We will not use your name in any of the information we collect from this study or in any of the research reports.
- Any information we collect in the study will be recorded with a code number.
- When the study is finished, the key that shows which code number goes with your name will be destroyed.

### Risks and Discomforts:

- We do not know of any personal risk or discomfort you will have from being in this study.

**Your Rights:**

- You decide on your own whether or not you want to be in this study.
- If you decide to be in the study, you will have the right to stop being in the study at any time.
- If you decide not to be in the study or to stop being in the study, this will not affect the services normally provided to you and your child by the school as the school will NOT know who has or has not participated.

**Institutional Review Board Approval:**

- The Academic Affairs Institutional Review Board (AA-IRB) at The University of North Carolina at Chapel Hill has approved this study.
- If you have any concerns about your rights as a participant in this study, you may contact the AA-IRB at (919) 962-7761 or at aa-irb@unc.edu.

**There are two copies of this form. One copy should be kept by the parents and the other copy should be completed by each parent in the household willing to participate in the study. The completed form should then be returned to the investigator in the self addressed envelope provided or in the drop box labeled *Reading Research Project* located at Cornatzer in the main entrance hall. THIS FORM IS DUE BY AUGUST 16, 2004.**

I have had the chance to ask any questions I have about this study, and they have been answered for me. I have read the information in this consent form, and I agree to be in the study.

---

**Signature of Participant 1**

---

**Date**

---

**Signature of Participant 2**

---

**Date****Please print your name:**  

---

**Please print your name:**  

---

**Participant 1-Relationship to the child:** (circle)  
Mother   Father   Other (specify)\_\_\_\_\_**Participant 2-Relationship to the child** (circle)  
Mother   Father   Other (specify)\_\_\_\_\_**Best time to reach Participant 1 by phone:**  
(please circle one)a. before noon   b. noon to five pm  
c. after five pm   d. other specific time\_\_\_\_\_**Best time to reach Participant 2 by phone:**  
(please circle one)a. before noon   b. noon to five pm  
c. after five pm   d. other specific time\_\_\_\_\_**Participant 1's Phone Number:**\_\_\_\_\_  
at time selected above**Participant 2's Phone Number:**\_\_\_\_\_  
at time selected above**Child's (Children's) Name(s)**\_\_\_\_\_ **in the third grade at**  
**Cornatzer Elementary School****Child's Teacher:**\_\_\_\_\_



## Appendix C:

### Follow-up Letters to Parents

**Reading Research Project**  
Cornatzer Elementary School  
552 Cornatzer Road  
Mocksville, NC 27028

Dear Parent(s) or Guardian(s):

**YOUR PARTICIPATION IS IMPORTANT**; therefore, the deadline for you to participate in the *Reading Research Project* has been extended to **October 14, 2004**.

If you have received this letter, it means that you have NOT yet agreed to participate in a 10-minute phone interview regarding your child's academic achievement. While parents' participation in the interview is voluntary, I am hoping to receive at least 90% parent participation. **YOUR PARTICIPATION WILL HELP US REACH THIS GOAL!**

All information you provide will remain confidential! Enclosed you will find a *Statement of Informed Consent* for you to return if you are interested in participating. Each parent or guardian living in your home should complete the form if he/she is interested in participating. Please return this form **by Thursday, October 14, 2004**. I have included a stamped, self-addressed envelope so that you do not have to pay for postage. You may also drop your envelope in a drop box located in the main entrance hall outside the office labeled *Reading Research Project*. If you have children in the 3<sup>rd</sup> AND 4<sup>th</sup> grades, please provide BOTH of their names on your returned *Statement of Informed Consent*.

At the conclusion of the study, I will present the study findings to all interested parents without identifying individual information.

Please do not hesitate to contact me with any questions or to further discuss this project. You may reach me at (919) 260-8331 or at [Stern7035@aol.com](mailto:Stern7035@aol.com).

I truly hope that you will consider participating in this opportunity. Thank you in advance for your cooperation and support.

Sincerely,

Michelle Stern, Doctoral Candidate  
Carolina, Chapel Hill

University of North

This study has been reviewed and approved by the ACADEMIC AFFAIRS INSTITUTIONAL REVIEW BOARD (AA-IRB) at The University of North Carolina at Chapel Hill. You may contact the AA-IRB if you have questions or concerns about your rights, or your child's rights, as research participants at (919) 962-7761 or at [aa-irb@unc.edu](mailto:aa-irb@unc.edu).

**Cornatzer Elementary School**

552 Cornatzer Road  
Mocksville, NC 27028  
(336) 940-5097

**Barbara T. Owens**  
Principal

**Lynn C. Marrs**  
Assistant Principal

*“School and community---building bridges to the future”*

Dear Parent(s) or Guardian(s):

**YOUR INVOLVEMENT IS IMPORTANT**; therefore, we are asking for your participation in the *Reading Research Project* one more time! As you may remember, in the beginning of the year 3<sup>rd</sup> and 4<sup>th</sup> grade students received an individual reading assessment in order to identify their strengths and weaknesses. The results were then given to teachers in order to help improve each child's reading achievement.

As part of this project, WE NEED ALL PARENTS TO PARTICIPATE IN A 5 MINUTE PHONE INTERVIEW REGARDING YOUR CHILD'S ACADEMIC ACHIEVEMENT. While parents' participation in the phone interview is voluntary, we are hoping to receive 100% parent participation. From this research project, we hope to provide parents with information on how to best support their children's reading achievement. Your participation will help Cornatzer reach its goal!

All information you provide will remain confidential! Enclosed you will find a *Statement of Informed Consent* for you to return by mail if you are interested in participating. We have included a stamped, self-addressed envelope so that you do not have to pay for postage. Each parent or guardian living in your home should complete the form if he/she is interested in participating. Please return this form **by Monday, May 2, 2005**. If you have children in the 3<sup>rd</sup> AND 4<sup>th</sup> grades, please provide BOTH of their names on your returned *Statement of Informed Consent*.

At the conclusion of the study, Michelle will present the study findings to all interested parents without identifying individual information.

You may contact Michelle Stern at (919) 260-8331 or at [Stern7035@aol.com](mailto:Stern7035@aol.com), as well as Mrs. Owens at (336) 940-5097 with any questions or to further discuss the project. We truly hope that you will consider participating in this opportunity. Thank you in advance for your cooperation and support.

Sincerely,

Barbara Owens, Principal  
Cornatzer Elementary School

Michelle Stern, Doctoral Candidate  
University of North Carolina, Chapel Hill

This study has been reviewed and approved by the ACADEMIC AFFAIRS INSTITUTIONAL REVIEW BOARD (AA-IRB) at The University of North Carolina at Chapel Hill. You may contact the AA-IRB if you have questions or concerns about your rights, or your child's rights, as research participants at (919) 962-7761 or at [aa-irb@unc.edu](mailto:aa-irb@unc.edu).

## Appendix D:

### Measures of Expectations

#### Measure of Parents' Academic Expectations for their Children

**Thank you for participating in this phone interview. It will include four sections of questions. The first section includes informational questions so that I can learn a little about you. The second section includes questions regarding your expectations for your child's grades in school. The third section includes questions regarding the highest level of education you expect your child to complete. The final section asks you about your expectations for your child's reading achievement specifically. The interview should take approximately 15 minutes. Do you have any questions?**

#### *Section One: Demographic Information*

Parent's ID Number:

Parent Interviewed:    Mother              Father              Other (specify):

Child's ID Number:

Child's birth date:

Child's gender:              Male              Female

Do you have any other children in the third grade at Cornatzer Elementary School?

How would you describe your ethnicity? Caucasian African-American Hispanic Asian  
Other (specify):

What is the highest level of education you have completed?

(1) Less than a high school diploma (2) GED (3) High school graduation (4) Two years of college or technical, vocational school (5) Four year college degree (6) Master's degree (7) Doctoral degree/Professional degree

**In the next two sections, I will ask you questions about your child in 3 different ways using the words CAN, EXPECT, and WANT. The first way asks what you think your child CAN do. For example most families have children do chores around the house (i.e. making their bed, taking out the garbage, etc). You think your child CAN do all of his/her chores. The second way asks what you EXPECT your child to do. For example, you EXPECT your child to do half of his/her chores around the house. The third way asks what you WANT your child to do. For example, you WANT your child to do all of his chores and offer to help with other things around the house. Do you understand the difference?**

***Section Two: Expectations for Grades in School***

1. What grades do you think your child CAN get in MATH on his/her final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

2. What grades do you EXPECT your child to get in MATH on his/her final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

3. What grades do you WANT your child to get in MATH on his/her final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

4. What grades do you think your child CAN get in READING on his/her final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

5. What grades do you EXPECT your child to get in READING on his/her final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

6. What grades do you WANT your child to get in READING on his/her final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

The answers consist of A, B, C, D, or Fail, and are based on a five-point scale, with higher scores representing higher expectations (A=5, B=4, C=3, D=2, F=1).

***Section Three: Expectations for Highest Level of Education Completed***

7. Do you think your child CAN... finish high school?

(1) No = less than high school

(2) Yes = finish high school

(3) Yes = go to Technical or specialty school (e.g. Forsyth Tech to study something like nursing or to learn to be an electrician)?

(4) Yes = go to college?

(5) Yes = go to more school after college (e.g. medical school, law school, or business school to become a doctor, lawyer, or other professional)?

8. Do you EXPECT your child to... finish high school?

(1) No = less than high school

(2) Yes = finish high school

(3) Yes = go to Technical or specialty school (e.g. Forsyth Tech to study something like nursing or to learn to be an electrician)?

(4) Yes = go to college?

(5) Yes = go to more school after college (e.g. medical school, law school, or business school to become a doctor, lawyer, or other professional)?

9. Do you WANT your child to... finish high school?

- (1) No = less than high school
- (2) Yes = finish high school
- (3) Yes = go to Technical or specialty school (e.g. Forsyth Tech to study something like nursing or to learn to be an electrician)?
- (4) Yes = go to college?
- (5) Yes = go to more school after college (e.g. medical school, law school, or business school to become a doctor, lawyer, or other professional)?

***Section Four: Expectations for Reading Achievement***

(Adapted from Chapman, Boersma, & Maguire, 1979)

**The remaining questions will focus only on your child's reading achievement. Please listen to all the answer choices.**

10. How well does your child read compared to other children in his/her class?

- (5) **A lot better** than other children in his/her class
- (4) **A little better** than other children in his/her class
- (3) **About the same** as other children in his/her class
- (2) **A little worse** than other children in his/her class
- (1) **A lot worse** than other children in his/her class

11. How good do you expect your child to be in reading this year compared to other children in his/her class?

- (5) **A lot better** than other children in his/her class
- (4) **A little better** than other children in his/her class
- (3) **About the same** as other children in his/her class
- (2) **A little worse** than other children in his/her class
- (1) **A lot worse** than other children in his/her class

12. How good do you expect your child to be at reading next year compared to other children in his/her class?

- (5) **A lot better** than other children in his/her class
- (4) **A little better** than other children in his/her class
- (3) **About the same** as other children in his/her class
- (2) **A little worse** than other children in his/her class
- (1) **A lot worse** than other children in his/her class

13. How good do you expect your child to be at reading when he/she is in the 8<sup>th</sup> grade compared to other children in his/her class?

- (5) **A lot better** than other children in his/her class
- (4) **A little better** than other children in his/her class
- (3) **About the same** as other children in his/her class
- (2) **A little worse** than other children in his/her class
- (1) **A lot worse** than other children in his/her class

14. How good do you expect your child to be at reading when he/she is in high school compared to other children in his/her class?

- (5) **A lot better** than other children in his/her class
- (4) **A little better** than other children in his/her class
- (3) **About the same** as other children in his/her class
- (2) **A little worse** than other children in his/her class
- (1) **A lot worse** than other children in his/her class

15. How much do you expect your child to learn in reading this year compared to other children in his/her class?

- (5) **A lot more** than other children in his/her class
- (4) **A little more** than other children in his/her class
- (3) **About the same** as other children in his/her class
- (2) **A little less** than other children in his/her class
- (1) **A lot less** than other children in his/her class

16. How much do you expect your child to like reading this year compared to other children in his/her class?

- (5) **A lot more** than other children in his/her class
- (4) **A little more** than other children in his/her class
- (3) **About the same** as other children in his/her class
- (2) **A little less** than other children in his/her class
- (1) **A lot less** than other children in his/her class

## Measure of Children's Perceptions of Parents' Academic Expectations

**These questions are to find out how your parents think you are going to do in school this year. There are no right or wrong answers. This is not a test. I will read all the questions to you. Please tell me the answer that best describes what your parent thinks.**

***Demographic Information*** (completed by the examiner)

Child's ID Number:

Testing Date:

**First, who lives in your home now?** (If only a mother lives in the home, then the examiner will only ask the questions about mother's expectations. The same applies if only a father lives in the home.)

Cue cards are presented to the child with response choices for each question. Higher scores represent higher expectations.

**Now, I will ask you questions about your MOM** (show MOM cue card). **I am going to ask you questions in two different ways. The first way asks what your mom THINKS** (show cue card-leave on left side of table) **and the second way asks what your mom WANTS** (show cue card-leave on right side of table). **For example, at dinner time your mom THINKS** (point to cue card) **you will not eat your broccoli, but you will eat dessert. Your mom WANTS** (point to cue card) **you to eat your broccoli and then your dessert. Do you understand the difference between THINKS and WANTS? Explain the difference between THINKS and WANTS in your own words.**

Child's explanation:

**Now I will ask you the first question. Listen carefully.**

### **Section 1**

***Mom's Expectations for Grades in School*** PLEASE WRITE DOWN IF CHILD GIVES A DIFFERENT RESPONSE (ex: As or Bs; honor roll)

1. What grades does your mom **think** you will get in MATH on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

2. What grades does your mom **want** you to get in MATH on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

3. What grades does your mom **think** you will get in READING on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

4. What grades does your mom **want** you to get in READING on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

## **Section 2**

### ***Mom's Expectations for Highest Level of Education Completed***

5. Does your mom **think** you will... finish high school?

(1) No = less than high school

(2) Yes = finish high school

(3) Yes = go to college?

(4) Yes = go to more school after college (e.g. medical school, law school, or business school to become a doctor, lawyer, or other professional)?

6. Does your mom **want** you to... finish high school?

(1) No = less than high school

(2) Yes = finish high school

(3) Yes = go to college?

(4) Yes = go to more school after college (e.g. medical school, law school, or business school to become a doctor, lawyer, or other professional)?

## **Section 3**

### ***Mom's Expectations for Reading Specifically***

(Adapted from Chapman, Boersma, & Maguire, 1979)

Use visual prompt = children in vertical lines.

**Pretend these are students in your class. This is the top of the class and this is the bottom. These students do A LOT BETTER than other students in the class. These students do A LITTLE BETTER than other students in the class. These students do ABOUT THE SAME as other students in the class. These students do A LITTLE WORSE than other students in the class. These students do A LOT WORSE than other students in the class. Now, you will use this line to answer questions on how your mom thinks. Do you understand?**

7. How well does your mom think you read compared to other students in your class?

(5) **A lot better** than other students in your class

(4) **A little better** than other students in your class

(3) **About the same** as other students in your class

(2) **A little worse** than other students in your class

(1) **A lot worse** than other students in your class

Show me which one your mom thinks is you.



8. How good does your mom think you will be in reading this year compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your mom thinks is you.

9. How good does your mom think you will be at reading next year, when you are in – grade compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your mom thinks is you.

10. How good does your mom think you will be at reading when you are in the 8<sup>th</sup> grade compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your mom thinks is you.

11. How good does your mom think you will be at reading when you are in high school compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your mom thinks is you.

**Now, look here.** (Turn to the next column of children.) **These students do A LOT MORE than other students in the class. These students do A LITTLE MORE than other students in the class. These students do ABOUT THE SAME as other students in the class. These students do A LITTLE LESS than other students in the class. These students do A LOT LESS than other students in the class. Now, you will use this line to answer questions on how your mom thinks. Do you understand?**

12. How much does your mom think you will learn in reading this year compared to other students in your class?

- (5) **A lot more** than other students in your class
- (4) **A little more** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little less** than other students in your class
- (1) **A lot less** than other students in your class

Show me which one your mom thinks is you.

13. How much does your mom think you will *like* reading this year compared to other students in your class?

- (5) **A lot more** than other students in your class
- (4) **A little more** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little less** than other students in your class
- (1) **A lot less** than other students in your class

Show me which one your mom thinks is you.

**Now, I will ask you questions about your DAD (show cue card). I am going to ask you questions in two different ways again. The first way asks what your dad THINKS (show cue card) and the second way asks what your dad WANTS (show cue card).**

#### **Section 4**

##### ***Dad's Expectations for Grades in School***

14. What grades does your dad **think** you will get in MATH on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

15. What grades does your dad **want** you to get in MATH on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

16. What grades does your dad **think** you will get in READING on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

17. What grades does your dad **want** you to get in READING on your final report card this year?

As(5) Bs(4) Cs(3) Ds(2) Fail(1)

### **Section 5**

#### ***Dad's Expectations for Highest Level of Education Completed***

18. Does your dad **think** you will... finish high school?

- (1) No = less than high school
- (2) Yes = finish high school
- (3) Yes = go to college?
- (4) Yes = go to more school after college (e.g. medical school, law school, or business school to become a doctor, lawyer, or other professional)?

19. Does your dad **want** you to... finish high school?

- (1) No = less than high school
- (2) Yes = finish high school
- (3) Yes = go to college?
- (4) Yes = go to more school after college (e.g. medical school, law school, or business school to become a doctor, lawyer, or other professional)?

### **Section 6**

#### ***Dad's Expectations for Reading Specifically***

Use the first column of children again. **Now, I will ask you questions on how your DAD thinks about you, using this line. Pretend these are students in your class again. Remember, these students do** (point and have the child say... **A LOT BETTER than other students in the class.**) **These students do** (point and have the child say... **A LITTLE BETTER than other students in the class.**) **These students do** (point and have the child say... **ABOUT THE SAME as other students in the class.**) **These students do** (point and have the child say... **A LITTLE WORSE than other students in the class.**) **These students do** (point and have the child say... **A LOT WORSE than other students in the class.**) **Do you understand?**

20. How well does your dad think you read compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your dad thinks is you.

21. How good does your dad think you will be in reading this year compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your dad thinks is you.

22. How good does your dad think you will be at reading next year, when you are in – grade compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your dad thinks is you.

23. How good does your dad think you will be at reading when you are in the 8<sup>th</sup> grade compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your dad thinks is you.

24. How good does your dad think you will be at reading when you are in high school compared to other students in your class?

- (5) **A lot better** than other students in your class
- (4) **A little better** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little worse** than other students in your class
- (1) **A lot worse** than other students in your class

Show me which one your dad thinks is you.

**Now, look here.** (Turn to the next column of children.) **Remember these students do** (point) **A LOT MORE than other students in the class.** **These students do** (point) **A LITTLE MORE than other students in the class.** **These students do** (point) **ABOUT THE SAME as other students in the class.** **These students do** (point) **A LITTLE LESS than other students in the class.** **These students do** (point) **A LOT LESS than other students in the class.** **Now, you will use this line to answer questions on how your dad thinks. Do you understand?**

25. How much does your dad think you will learn in reading this year compared to other students in your class?

- (5) **A lot more** than other students in your class
- (4) **A little more** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little less** than other students in your class
- (1) **A lot less** than other students in your class

Show me which one your dad thinks is you.

26. How much does your dad think you will *like* reading this year compared to other students in your class?

- (5) **A lot more** than other students in your class
- (4) **A little more** than other students in your class
- (3) **About the same** as other students in your class
- (2) **A little less** than other students in your class
- (1) **A lot less** than other students in your class

Show me which one your dad thinks is you.

Appendix E:

Invitation to Parent to Receive Children's Testing Results

**Cornatzer Elementary School**

552 Cornatzer Road  
Mocksville, NC 27028  
(336) 940-5097

***Barbara T. Owens***  
**Principal**

***Lynn C. Marrs***  
**Assistant Principal**

Dear Parents,

We want to thank you for your involvement in the Reading Research Project including 3<sup>rd</sup> and 4<sup>th</sup> grade students at Cornatzer Elementary School. We are excited about the information that has come from this project.

We also want to let you know that we will be available to share the results of your child's reading assessment with you during Parent-Teacher Conferences. Ms. Stern will be available **Thursday, October 14**, from 9:00 am until 6:30 pm to meet with parents in her office, which is located in the Guidance area next to Ms. Marrs' office. There will be a sign on the door with her name. Mrs. Owens will be available **Friday, October 15** from 9:00 am until 2:30 pm, and will meet with parents in her office, located in the main office. We will be meeting with parents individually in order to respect confidentiality; therefore, if our doors are closed, please wait outside until we are available.

Please do not hesitate to contact us with any questions. You can reach Ms. Stern at (919) 260-8331 or via e-mail at [Stern7035@aol.com](mailto:Stern7035@aol.com). You can also contact Mrs. Owens at (336) 940-5097.

We look forward to seeing you,

Barbara Owens, Principal  
Cornatzer Elementary School

Michelle Stern, Doctoral Candidate  
University of North Carolina, Chapel Hill

# Appendix F

Pearson Correlations between Expectation Variables (Reported and Perceived) and Reading Achievement for the Overall, Lower Risk, and Higher Risk Samples

Reading Achievement	Parents' Expectations											
	P4	P5	P6	P8	P9	P10	P11	P12	P13	P14	P15	P16
OVERALL												
WJ-III ( <i>n</i> = 94)	<b>.57***</b>	<b>.43***</b>	.16	-.06	-.16	<b>.60***</b>	<b>.35**</b>	<b>.27**</b>	.17	.16	.02	<b>.39**</b>
EOG ( <i>n</i> = 87)	<b>.47***</b>	<b>.48***</b>	.20	-.08	-.17	<b>.60***</b>	<b>.43***</b>	<b>.26*</b>	.12	.18	<b>.23*</b>	<b>.34**</b>
LOWER RISK												
WJ-III ( <i>n</i> = 64)	<b>.30*</b>	<b>.30*</b>	.05	-.16	-.17	<b>.39**</b>	.04	.04	.08	.03	.11	.20
EOG ( <i>n</i> = 62)	<b>.30*</b>	<b>.44**</b>	.13	-.16	-.17	<b>.54***</b>	<b>.39**</b>	<b>.26*</b>	.14	.16	<b>.30*</b>	.19
HIGHER RISK												
WJ-III ( <i>n</i> = 30)	.35	.10	.02	.03	-.23	.18	.23	.14	.12	.24	.03	<b>.63**</b>
EOG ( <i>n</i> = 25)	.32	.24	.16	.12	-.14	.24	.12	-.05	-.07	.11	.18	<b>.55**</b>

Reading Achievement	Children's Perceptions of Parent Expectations									
	C3	C5	C6	C7	C8	C9	C10	C11	C12	C13
OVERALL										
WJ-III ( <i>n</i> = 94)	.30**	.24*	-.02	<b>.41***</b>	.24*	-.01	.08	-.11	.07	.28**
EOG ( <i>n</i> = 87)	.27*	.06	-.23*	<b>.34**</b>	.11	-.07	.03	-.15	-.01	.31**
LOWER RISK										
WJ-III ( <i>n</i> = 64)	.10	.12	-.13	.36**	.19	-.14	.01	-.08	-.09	.19
EOG ( <i>n</i> = 62)	.15	-.01	-.16	.32*	.05	-.13	-.07	-.08	-.01	<b>.41**</b>
HIGHER RISK										
WJ-III ( <i>n</i> = 30)	.16	.21	.12	.43*	.23	.16	.09	-.16	.29	.06
EOG ( <i>n</i> = 25)	.16	-.07	-.33	.22	.11	.03	.17	-.13	-.09	-.19

Note. Bolded correlations meet criteria set forth using the Bonferroni correction,  $p < .002$

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .0001$ .



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