CONSIDERING RACE, GENDER, AND BEHAVIOR IN THE CLASSROOM:

TEACHER PERCEPTIONS AND STUDENT ACHIEVEMENT

by

NATASHA M. HOWARD

(Under the Direction of Arthur M. Horne)

ABSTRACT

Researchers have long sought to discover the variables necessary for optimal student achievement. In recent years, more attention has been focused on the nature of the teacher-pupil relationship and on teacher characteristics that promote student learning. Teacher efficacy and expectation have been identified as two factors that contribute to student achievement. The purpose of this study was to investigate differences in teacher efficacy and expectations for different types of students. This study was specifically focused on examining differences in teacher perceptions by student race, gender, grade level, and behavioral cluster. The study sought to determine the extent to which teacher efficacy and expectation can predict student academic achievement.

INDEX WORDS:Teacher efficacy, Teacher expectation, student achievement

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NATASHA M. HOWARD

B.A., The University of North Carolina, 1997

M.A., Boston College, 1999

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NATASHA M. HOWARD

Major Professor: Arthur M. Horne

Committee: Linda F. Campbell
John C. Dagley
Randy W. Kamphaus
Rosemary E. Phelps

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
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DEDICATION

This is for my mother who always wanted a doctor in the family.

And David- for so many things for so many years.

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TABLE OF CONTENTS

Page

CHAPTER 1

INTRODUCTION

Educating and protecting children is the single most difficult challenge to face public schools and society (Pianta, 1999). Although few would disagree with the need for comprehensive education of our youth, there is little agreement about the factors necessary to ensure proper learning. A brief survey of educational data makes it clear that schools are falling far short of providing an optimal learning environment for a significant portion of American schoolchildren. The national high school dropout rate is 11% (U. S. Department of Education, National Center for Educational Statistics, NCES, 2002); of those students who do complete high school, only 40% believe that what they learn in class will be "quite or very important" later in life (NCES, 2002). Although these statistics are themselves disheartening, a closer look at specific groups of students creates more cause for alarm.

Minority Students are "At-risk"

Much attention in the last two decades of research has been focused on identifying students at-risk of poor educational outcome. Variables examined include socioeconomic status (Bracey, 1999; Weston, 2000), family structure, aggression, and exposure to violence. Although many factors in combination have been shown to lower a student's chances for success in the classroom, one fact is overwhelmingly clear: minority students are not faring as well as their majority counterparts. Although American students as a whole have shown improvement in academic achievement over three decades, the gap

between White and African-American and Latino students is widening (Hoff, 2000). The achievement gap is reflected in grades, test scores, and college completion rates (D'Amico, 2001; Johnston & Viadero, 2000; NCES, 2000).

Despite *Brown v. Board of Education* (1958), and the federally mandated integration of public schools, many classrooms remain segregated (Causey, 1999). Tracking, the process by which students are put into specific pathways and levels of curriculum based on ability level, is creating two separate, but not equal, educational experiences within one school building – one for White and Asian American students and one for African American and Latinos. Students from historically disadvantaged groups are disproportionately represented in lower academic groupings and are significantly less likely to be placed in gifted programs (Chunn, 1989). Mixed-ability grouping has been shown to produce a smaller achievement gap (Roscigno, 1998).

Disparities in achievement are evident as early as kindergarten. According to the U.S. Department of Education (2000), African-American and Latino kindergartners do not perform as well as White and Asian-American students on general knowledge, reading, and math tests. Jacobson (2002), in a study including 22,000 students, also found that White and Asian-American students were more likely to recognize words by sight and perform basic mathematics operations than were African-American or Latino children. The disparities in performance documented in kindergarten only widen as time progresses. By their senior year in high school, African-American and Latino students score on average at the same level as White eighth graders on National Association of Educational Progress (NAEP) math and reading tests (Kahlenberg, 2000; Viadero, 2000). Poorer achievement throughout the elementary and postsecondary years is reflected in

higher dropout rates for African-American and Latino students: 12.6 and 28.6%, respectively (U.S. Dept. of Education, 1999).

Steele (1997) described the academic achievement barriers faced by African-American students using a general theory of domain identification. The foundation of Steele's theory is that academic success requires identification with the school, and this identification is stymied for marginalized students by societal forces such as economic disadvantage, institutional racism, and past familial alienation from educational opportunities. Steele further notes that in school domains where minority students are negatively stereotyped, individuals face the added obstacle of stereotype threat. Stereotype threat is the hazard that negative schemas, or stereotypes, will be built based on individual actions or the judgments of others. Stated differently, Steele posits that African American students are less engaged or identify with school domains less than do majority students because of the peril of aligning themselves with a system that holds negative preconceptions about them. This lack of identification then hinders further academic success.

There is a growing body of evidence that suggests that minority students may be forced to choose between their cultural identity and improved school performance. In a 1986 study, Ogbu and Fordham documented the phenomenon of "acting White" ridicule. The researchers found that peers often torment students who adopt mainstream achievement behaviors. Ogbu (1993) addressed students' reactions to the systemic inequalities faced by African Americans by proposing that minority students develop seemingly oppositional behaviors and/or identities to withdraw from inequitable institutions. Graham (1997) also suggested that what is often perceived as deviant

behavior on the part of African American students actually may be a coping mechanism to deal with discrimination.

The works of Steele, Graham, Ogbu and Fordham emphasize students' lack of identification with educational systems. One cannot truly examine the issue of identification with, or engagement in, education without pausing to consider the very real structural barriers in place. When minority students look to the head of the class, they are unlikely to see someone similar to themselves. Although one third of the population of public schoolchildren are non-White, this diversity is not reflected in the ranks of teachers; 87% of teachers are White (Ordovensky, 1992). This split makes it imperative to investigate teachers' perceptions of students and students' beliefs about teachers.

The Gender Gap

The Civil Rights Act of 1964, Title IX, and numerous other legislative initiatives affecting education were designed to create equity within the school. Considerable evidence, however, indicates that teachers persist in their disparate ratings of students based on gender. Warrington and Younger (2000) posit that high school girls' outperformance of boys on standardized tests is negated by girls' feelings of alienation from subjects traditionally dominated by males.

Another question researchers must address concerns the displayed differences in academic achievement between the sexes. Despite years of study, there is continuing disagreement over whether girls are more at risk than boys in the context of school achievement (Pomerantz, Altermatt, & Saxon, 2002). Although girls perform better than boys do across the academic spectrum, they also experience more internal discomfort.A consistent finding in the literature is that a gender difference on standardized math tests

emerges in junior high school (Fennema & Sherman, 1977; Hyde, Fennema, & Lamon, 1990; Kimball, 1990). Prior to junior high, there is not a significant difference between boys and girls on the standardized tests, but girls tend to receive higher classroom grades in math across all grade levels (see Kimball, 1989, for a review). Later in their academic and professional careers, girls tend to take fewer advanced math courses, and women tend to stay away from careers that are heavily math dependent.

Altermatt, Jovanovic, and Perry (1998) highlighted the need to focus on the interactive roles of teachers and students in creating and maintaining gender differences in classroom interaction. The investigators tracked the question-asking patterns of six teachers with 165 students in science classes. In three of those six classrooms, teachers called on boys disproportionately more frequently given the sex distribution in the classroom. However, when volunteering rates were taken into account, teachers did not appear to hold gender biases in their question-asking patterns. The study suggests that there is an early socialization effect related to girls feeling more inhibited in the classroom.

Dimensions of Student Behavior

The increasing diversity of classroom environments is also reflected in the types of behavior exhibited by students. Early assessments of child behavior tended to focus on placing children in diagnostic categories. This approach failed to consider the severity of a particular behavior and limited research to investigations of diagnoses rather than symptoms (Fergusson & Horwod, 1995). An alternative to the categorical approach is to look at behaviors along a continuum or within specific constructs; this method of investigation is referred to as a dimensional approach. Dimensional approaches have

several benefits. First, they allow comparisons of all children on a variety of dimensions of behavior (Kamphaus, Huberty, DiStefano, & Petoskey, 1997). Secondly, they can account for comorbidity (Caron & Rutter, 1991). For example, a dimensional approach allows for diagnosis of both attention-deficit/hyperactivity disorder and oppositional defiant disorder whereas more traditional approaches would diagnose only the disorder with a higher T score**.** Finally, dimensional approaches have higher predictive validity than categorical methods (Fergusson & Horwood, 1995).

The Behavioral Assessment Scale for Children (BASC; Reynolds & Kamphaus, 1992) includes a typology of classroom behaviors and allows for investigation of the full range of child behavior. The dimensional approach groups behaviors along a series of constructs and is inclusive of all types of children (Kamphaus, Huberty, DiStefano, & Petoskey, 1997). The development of this classification system is an important aid to researchers in the study of behaviors, but it also has significant practical applications for teachers and parents. The BASC presents a meaningful typology of classroom behavior using 10 clinical problems scales across three domains (Externalizing Problems, Internalizing Problems, and School Problems) and 4 adaptive scales (Adaptability, Leadership, Social Skills, and Study Skills). Ratings of child behavior on the 14 scales are used to determine a student's cluster membership. The seven dimensions of child behavior, or cluster, defined by the BASC are: 1) Well-Adapted, 2) Average, 3) Disruptive Behavior Disorder, 4) Learning Disorder, 5) Physical Complaints and Worry, 6) Severe Behavior Disorder, and 7) Mildly Disruptive (see Table 1).

Not All Teachers are Alike

Although teachers may have personalities as varied as their pupils, they do not appear nearly as diverse. Recent census statistics show that the numbers of minority students are increasing while the number of teachers of color is decreasing (U.S. Census Bureau, 2001). This trend is both significant and problematic due to evidence that suggests that academic achievement for *all* students is greater with higher numbers of minority teachers in the classroom. Dee (2000) found African American and students fare better when the proportion of teachers of color in a school is higher. Clewell, Puma, and McKay (2001) found similar results. Students being instructed by teachers of the same race and gender tend to be more engaged in the educational process and have a greater investment in academic achievement (Zirkel, 2002). Interestingly, one study has found that White students also fare better with higher numbers of minority teachers within the school (Meier, Wrinkle, & Polinard, 1999).

The results of these studies make it critical to investigate specific differences in how majority and minority teachers respond to and interact with students. Using a sample of African American and White inner city teachers, Boesel (1968) found that African American teachers tend to estimate their students abilities as average. White teachers in the same sample tended to perceive their students' abilities as below average.

While investigating specific aspects of the pupil-teacher interaction, some researchers have examined the reinforcement patterns of teachers. Because there has not been a clear accounting of how teachers' race affects the amount and quality of reinforcement in the classroom, it is important to include race as a variable in studies addressing inequities in educational settings and opportunities. Relatively few numbers

of minority teachers have been represented in studies revealing that African American students receive more negative feedback than White students (Aaron & Powell, 1982; Rubovits & Maer, 1973; Taylor, 1979) By contrast, African American and White teachers have been found to reinforce students in their classrooms at equal rates (Byalick & Bersoff, 1974). Who the teachers reinforce, however, remains a somewhat open question. Byalick and Bersoff's findings differ from other studies in finding that teachers reinforce children of the opposite race more than pupils of the same race. These mixed findings point to another reason to investigate teachers' early perceptions of students. Teacher efficacy has been linked to use of praise and individual attention (Ashton & Webb, 1986), and teachers increase the amount of effort given to students for whom they hold high expectations (Rosenthal, 1989).

Teacher Perceptions Affect Student Learning

One area of educational practice that has come under increasing study over the last several decades is that of the teacher-pupil relationship. More specifically, researchers have found the variables of teacher efficacy and teacher expectation to have profound impact on the classroom adaptation of students. These factors have been shown to affect student performance goals and motivation to learn (Herman, 2001; Midgley, Feldlaufer, & Eccles, 1989) and student achievement (Ashton & Webb, 1986). High teacher efficacy is also related to the raising of end-of-year goals for students (Allinder, 1995), and higher goals and expectations for students have long been established as important for student achievement (see Rosenthal & Jacobson, 1968).

Confidence in the classroom, or the assurance that one will be successful in providing instruction and managing behavior, is a critical component of a teacher's

effectiveness. Ashton and Webb (1986) defined teacher efficacy as a set of beliefs about the impact of one's teaching on student performance. Teacher efficacy exists independently of environmental factors and individual student ability and has a significant impact on the classroom environment (Ashton & Webb, 1986). Teacher efficacy has been related to classroom management style (Ashton & Webb, 1986), quantity and quality of interactions with students, referral rates for special education or disciplinary problems (Meijer & Foster, 1988; Safran, 1986; Ysseldyke, 1983), use of praise and criticism (Gibson & Dembo, 1984) and willingness to employ varied instructional techniques (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977; Guskey, 1988; Smiley, 1988). Additionally, teacher efficacy has been shown to be related to student variables such as achievement, task mastery and performance goals, and self-efficacy (Herman, 2001).

While most educators will readily endorse a concern for the welfare of children as a key factor in their decision to teach, an increasing number do not believe they have the skills and competencies to work effectively with children of diverse backgrounds (U.S. Department of Education, 1999). Increases in immigration patterns, greater geographic mobility, and changes in school districting and educational policy have created incredibly diverse classrooms. Public school classrooms are no longer dominated by White, middle-class children living with both biological parents; one-third of America's 54 million elementary and secondary schoolchildren are now African American, Latino, or Native American (Johnston & Viadero, 2000). Teachers are now standing in front of groups of students whose backgrounds differ culturally, economically, and cognitively from their own. While the need to serve a more diverse array of students is increasing, teachers are

expressing decreased conviction in their ability to reach all students in the classroom (Pallas, Natriello, & McDell, 1995; Pang & Sablan, 1998). Since action is based more on internal beliefs than external reality (Bandura, 1995), it is likely that the classroom effectiveness of some teachers is compromised by a lack of confidence.

Very early in the school year, teachers develop expectations of their students (Brophy, 1983; Brophy & Good, 1974; Rist, 1970). These expectations largely determine how the teacher will interact with each student in the classroom (Fibel & Hale, 1978). Teachers tend to expend more energy providing individual instruction to those students for whom they hold high expectations (Ashton & Webb, 1986; Fibel & Hale, 1978). Teachers may also dismiss the efforts of students for whom they expect little academic success, thereby providing little or no reinforcement for these students' attempts. Although these expectations are often false, they serve as strong predictors of student achievement as students often perform at levels consistent with teacher expectations (Brophy & Good, 1974; Crano & Mellon, 1978; Humphreys & Stubbs**,** 1977). False estimates of student intelligence and academic potential affect students long after they leave the classroom in which the expectations were first set. Alvidrez and Weinstein (1999) found preschool teachers' over- and underestimates of student ability predicted grade point average fourteen years later.

Rosenthal and Jacobson (1968) first demonstrated the power of teacher expectations. They found that manipulating teachers' beliefs about student potential did in fact influence student achievement. This study was the first to address the role of the self-fulfilling prophecy in the classroom. Since the time of the Rosenthal and Jacobson study, other researchers have focused on the differential effect of self-fulfilling

prophecies. Stereotypes and prejudices may contribute to negative expectations of students from marginalized or stigmatized groups (Socherman, 1999), and these expectations may indeed be met when students alter behavior due to internalized expectations. Gender (Brophy & Good, 1974; Shepardson & Pizzini, 1992) and race (Contreras & Lee, 1990) have been shown to effect teachers' differential expectations of students and coincide with different treatment.

Glascoe (2001 investigated the relationship between teacher ratings of student performance and student success as measured by a diagnostic achievement test, the Comprehensive Inventory of Basic Skills-Revised (CIBS-R). Data revealed a significant difference between the teacher ratings and student performance on the CIBS-R. The teacher ratings were best predicted by students' basic reading skills, and teachers tended to label as "average" students with mild to moderate learning difficulties. Although the study did not point to specific teacher bias in ratings, it did indicate the need to use multiple tools for assessing students' strengths and weaknesses, particularly when making decisions regarding special education services.

Social learning is a powerful component of the educational experience, and further investigations into the effect of low-expectation modeling should be conducted to understand more fully the conditions under which students are motivated to learn. Students tend to pick up on the attitudes their teachers hold regarding their academic and behavioral potential. Student motivation has been found to be lessened in situations in which teachers hold low expectations for previously low-achieving students (Jussim, 1997). Additionally, teacher efficacy has a profound effect on students' learning outcomes (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977). National trends toward

educational accountability and standards-based reform for students in general education classrooms also apply to students with disabilities (Johnson, Bruininks, & Thurlow, 1987). Maroney (2000) argues that students with special needs do not need teachers to lower expectations to accommodate them. Rather, she proposes that teachers be particularly mindful of communicating their expectations and encouraging them at every stage. Wolk (2000) argues that educators perform a disservice by not preparing all students for higher education because of beliefs that students' ethnicity or social status will prevent them from attaining high levels of education.

The ACT Early Project

The present study grew out of work being conducted in the ACT Early Project. The ACT Early Project is a longitudinal (1996-2003) study involving elementary school students at-risk because of poor behavioral adaptation to the classroom and their teachers (Baker, Kamphaus, & Horne, 2002; Horne, Baker, & Kamphaus, 1999). Originally focused on child behavior problems in the K-3 settings, the project initially sought to identify individual student variables that contribute to behavioral risk status in early elementary school. The study design eventually grew to include grades K-5 and encompassed two broad objectives, "(1) to document individual, interactional, and environmental contributors to behavioral risk for students in elementary school (and conversely, to document the individual, interactional, and environmental contributors to behavioral protective factors), and (2) to use this contextually rich information to help teachers acquire competencies to work effectively with children at high risk of poor behavioral and educational adaptation" (Baker, Kamphaus, & Horne, 2002). The present

study looks specifically at the student-teacher interactional variables that contribute to behavioral risk and academic achievement.

Statement of the Problem

Teachers' perception of their abilities to work successfully with students based on gender and race impacts students' experiences in the classroom in a number of ways. The literature on teacher expectation provides strong evidence regarding the relationship between teacher expectation and student achievement. What is missing, however, is an understanding of the differences in expectation based on gender and race. Teachers' sense of efficacy determines both the amount and quality of teacher-student interactions. Teacher efficacy also determines the kinds of instructional techniques employed and the degree of challenge in classroom activities. Additionally, students' internalization of teachers' expectations may result in academic performance which is below the students' true potential. Yet, there is a lack of longitudinal research focusing on the effects of teachers' efficacy and initial expectations for students' academic performance. The problem investigated in this study was how students' gender and/or ethnicity influences teachers' efficacy in working with particular students, and teachers' expectations for students' academic performance.

Purpose of the Study

The purpose of this study was to determine the relationship between teachers' efficacy and expectations and students' academic performance. Specifically, the study measured differences in teacher efficacy and expectation by students' gender, race, behavioral cluster, and/or grade level and how this relates to academic performance. The

results of this study may contribute to greater understanding of the importance of the student-teacher relationship for academic success. With this information, more positive classroom interactions may be facilitated by designing interventions to bolster teacher efficacy and improving teacher expectation. Additionally, this study may shed light on cultural or gender bias occurring in the classroom and inhibiting teachers' abilities to work successfully with all students.

Hypotheses

This study was designed to assess the relationship, if any, that teacher efficacy has with teacher expectation of students. Furthermore, the study examined differences in teacher efficacy and teacher expectation by student gender, race, behavioral cluster, and grade level. Additional analyses considered the extent to which teacher efficacy and teacher expectation are related to teacher race. Lastly, teacher efficacy and teacher expectation were investigated as predictors of student achievement.

Null Hypothesis 1. There will be no relationship between teacher efficacy and teacher expectation.

Null Hypothesis 2. There will be no difference in ratings of teacher efficacy or teacher expectation between students' race and/or gender or by grade and/or behavioral cluster.

Null Hypothesis3. Ratings of teacher efficacy or teacher expectation will not predict student achievement

Definitions of Terms

Teacher Efficacy.

For the purposes of this study, teacher efficacy is defined as the Efficacy scale score obtained on the Efficacy and Expectation Measure (E^2M) (Horne, Dagley, & Socherman, 1999). Ashton and Webb (1986) defined teacher efficacy as beliefs about the impact of one's teaching on student performance independent of variables such as individual student ability and environmental factors. Stated differently, teacher efficacy is the confidence that a teacher holds that s/he has the capabilities necessary to promote student learning. The term encompasses both beliefs about general teaching abilities and the application of those skills producing the desired effect of student learning.

Teacher Expectation.

For the purposes of this study, teacher expectation will be defined as the Expectation scale score obtained on the Efficacy and Expectation Measure (E^2M). Teacher expectation refers to teachers' predictions of a student's future success in the classroom.

Bias.

In the present study, bias will be defined as differential expectations for the academic achievement of students based on gender and/or race or disparities in perceived efficacy in working with students of different racial/ethnic groups, gender, or behavioral cluster. To measure bias, comparison of ratings of students on the Efficacy and Expectation Measure (E^2M) will be used.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Teacher Efficacy

Sparked by the discovery that teachers' beliefs about their professional abilities have significant effects on students' learning outcomes (Berman**,** et al., 1977), nearly three decades of research have addressed self-efficacy in teaching. Teacher efficacy is defined as beliefs about the impact of one's teaching on student performance. Ashton and Webb (1986) limit the definition to the set of expectations teachers hold for the influence of their instruction independent of variables such as student ability and environmental factors. In other words, teacher efficacy is the confidence that a teacher holds that she or he has the capability of promoting student learning. These expectations influence instructional style, interactions with students, and student achievement (Socherman, 1999).

Significant differences have been found between high- and low-efficacy teachers. Teachers with low-efficacy spend nearly twice as much instructional time in small group activities (Gibson & Dembo, 1984). High-efficacy teachers ask more follow-up questions to lead students to correct answers and are more comfortable leading large group activities. Ashton, Webb, and Doda (1983) also found high-efficacy teachers to maintain consistently higher performance expectations for their students. These higher expectations of students benefit their pupils in a number of ways.

Teachers high in self-efficacy are more likely to have positive classroom environments (Ashton & Webb, 1986). Students in these classrooms experience less anxiety and receive more individual attention than do their counterparts with low efficacy teachers. High teaching efficacy is also associated with more praise and less criticism of students, greater support of student input into classroom activities, and increased willingness to expend greater efforts helping students with learning difficulties. The combined effect of these behaviors produces improved student learning. High efficacy teachers, therefore, are continually reinforced in their beliefs that they can positively impact student learning.

Flowerday and Schraw (2000), in their interviews with practicing teachers, found that educators by and large believe that allowing students choice in the classroom promotes learning and motivation. The researchers also found teachers to impose limits on choice based on a number of factors including experience, management style, and efficacy. Greater classroom choice for students supports autonomy, which leads to higher levels of intrinsic motivation and self-determination.

Pelletier, Sequin-Levesque, and Legault (2002) found teachers to be less supportive of autonomy and more controlling when they perceive both pressure from above (administrative) and below (students). Pressure from above was defined as performance standards, compliance with a mandated curriculum, or strained relationships with colleagues. Pressure from below was defined as students' lack of motivation or interest. Relatedly, autonomy-supportive teachers have been found to use clear motivating tactics evidenced by conversational behaviors, interpersonal style, and support of students' intrinsic motivation (Reeve & Bolt, 1999). These studies point to teachers'

need to have their skills supported and recognized as a means of promoting more effective instructional style. Ross has posited that student motivation to learn- and therefore achievement- can be enhanced by first improving teacher efficacy.

Ross (1995) suggests that student achievement can be enhanced by first improving teacher efficacy, and a number of researchers over the last thirty years have focused on the impact teacher efficacy has on a wide range of classroom variables. Ross' argument hinges on the hypothesis that teacher goal setting and attributional processes are the primary determinants of the impact of teacher efficacy.

Few empirical studies have tested the commonly held belief that teachers with more experience have greater positive impact on student achievement and motivation (Herman, 2001). In a study including 272 teachers and 5,612 students, Herman tested a mediational model in which teacher efficacy was hypothesized to be a mediator variable between teacher experience and the impact on student motivation and class achievement. Analyses found teacher experience was not significantly correlated with student achievement or motivation. Teacher efficacy, however, was related to student variables including achievement, task-mastery goals and performance goals, and self-efficacy.

In a survey of 100 pre-service and 75 in-service teachers enrolled in a multicultural education course, Pang and Sablan (1998) found that many participants believed they would be ineffective in teaching African-American students. Pre-service teachers were more optimistic about their ability to work effectively with African-American students than were in-service teachers. The researchers also found the largely White participants had limited knowledge about African-American culture.

Teachers with high personal and teaching efficacy have been found to raise end-of-year goals for their students more often than teachers with lower efficacy (Allinder, 1995). This reappraisal and heightening of goals is indicative of these teachers' beliefs in their ability to reach students and their resulting expectations for students' success; these beliefs may serve as a catalyst for students' internalization of positive expectations. Cotton (1999) noted that teachers tend to attribute student failure to external variables such as low student ability, lack of parent support, and negative peer influence, but student achievement is at least partially attributed to teacher effort and encouragement.

Poddell and Soodak (1993) studied the relationship between teacher efficacy and bias in decisions to refer students to special education. Low-efficacy teachers were more likely to refer students from low-SES families whereas there was no significant difference in referral rates for high-efficacy teachers. Given the connection between race and SES, the results of this study suggest that minority students may be more likely to be referred to special education programs than majority students at the same level of academic achievement due to teachers' lack of efficacy. In fact, the typical profile of a student referred for special education services is that of an African-American male in second grade and from a low socioeconomic background (Dukes, 2000). Dukes also concluded that teacher efficacy is a significant factor in the decision to refer a student for special education.

Teacher Expectations

The power of teacher expectations cannot be overstated. Miller and Turnbull (1986) go so far as to assert: "Teachers' expectancies influence students' academic

performance to a greater degree than students' performance influences teachers' expectancies" (p. 236).

Rosenthal and Jacobson (1968) shocked the pedagogical world with their groundbreaking study, *Pygmalion in the Classroom.* The researchers found the expectations teachers hold for students in their classroom to influence student achievement. The researchers inflated teachers' expectations for particular students by telling the teachers that students who had performed well on a written examination had considerable academic potential. Although students identified to teachers as having this great potential for academic development were chosen at random, these students did, in fact, fare better scholastically than their non-identified peers. Higher gains in IQ points on an intelligence test given eight months later were seen in students for whom teachers held higher expectations for academic performance.

The Pygmalion effect has been shown to persist over the years. Alvidrez and Weinstein (1999) assessed teacher expectations for 110 four-year olds. Teachers rated children perceived as assertive and independent with more academic potential than IQ score would predict, and students judged to be immature were rated with less potential than IQ score would predict. Confounding the judgements was socioeconomic status; students judged to be assertive and independent were generally from higher socioeconomic backgrounds whereas those from lower socioeconomic backgrounds tended to be judged as immature. After controlling for SES, the researchers found the pre-school teachers' over- and under-estimates of intelligence and academic potential relative to IQ score predicted grade point average and Scholastic Aptitude Test (SAT)

taking **fourteen** years later. The effect for students whose ability was underestimated was strongest.

Since the landmark Rosenthal and Jacobson study, researchers have spent considerable energies investigating the impact of teacher expectations on students (see Jussim, 1991, for review) as well as the types and components of expectations themselves. Cooper and Tom (1984) divided expectations into three general categories: estimates of present ability or achievement, expected improvement, and natural discrepancies between teachers and tests. Additionally, Jussim (1989) delineated three components to be considered when determining the effects of teacher expectations: self-fulfilling prophecies, perceptual biases, and accuracy.

Self-fulfilling Prophecies. Circumstances or situations in which initially false beliefs become true were defined by Merton (1948) as self-fulfilling prophecies. Merton demonstrated that internal expectations themselves, not alterations in external circumstances, can change the outcome of situations. Importantly, false beliefs shape not only how individuals behave but also how they view themselves (Eden & Shani, 1982**;** Jussim, Eccles, & Madon, 1996). Rosenthal and Jacobson's 1968 Pygmalion study brought attention to self-fulfilling prophecies to the classroom. For students, this means that low teacher expectations may lead to poorer performance and a lowered sense of efficacy for future achievement. Brattesani, Weinstein, and Marshall (1984) demonstrated that teacher expectations predict students' expectations.

Jussim (1989) delineated three conditions, which must be met in order to establish that a teacher's expectations alter a student's performance, thereby creating a self-fulfilling prophecy. The first condition is that teacher expectations must be positively

associated with student achievement. In other words, student achievement must move in the same direction as teacher expectation. The second condition refers to the source of expectations. A self-fulfilling prophecy cannot be identified if the teacher expectations arise from an accurate reading of other sources of information regarding student ability (e.g., standardized test scores). The final condition that must be met is independent evaluation of student achievement.

Considerable research regarding the impact of self-fulfilling prophecies on student self-concept exists (Madon, et al., 2001). Experimental manipulation (e.g., Jussim, Saffin, Brown, Ley, & Kohlepp, 1992) has proven that feedback to students on ability influences their perceptions of ability. Several naturalistic studies have also shown that student self-concepts are predicted by teacher expectations (see Eccles & Wigfield, 1985, for review). Previous achievement has less impact on students' performance expectations than do teacher expectations (Brattesani, Weinstein, & Marshall, 1984). All of these studies suggest that students begin to see themselves as teachers see them.

Perceptual biases. At times, teachers may perceive a student to be performing at a level that is inconsistent with the evidence. In such instances, teacher perceptions are more affected by their expectations than by objective measures such as standardized test scores. Miller and Turnbull (1986) noted that student performance does not change in all situations that teachers perceive a change to have occurred. This is the situation that Jussim (1989) refers to when describing the tendency of teachers to make sense of students' performance or actions in ways that are consistent with their expectations. Although the perceptual bias itself does not impact student performance, it may have a

detrimental effect on students' educational experience in a secondary way. Students performing consistently with their abilities and previous performance will be evaluated differently by teachers responding to perceptual biases and assigning grades.

Accuracy. The accuracy of teacher expectations is a critical component of evaluating the impact of teacher expectations. Determining the accuracy of teacher expectations is the process of assessing the extent to which expectations predict, without causing, student performance (Jussim & Eccles, 1992). In order to measure the accuracy of expectations, objective measures such as standardized test scores must be used. If expectations are based on valid information from outside sources rather than the teacher's own erroneous beliefs about student ability, then a self-fulfilling prophecy cannot be identified as the root cause of student performance. An accurate assessment of student ability cannot be said to affect student performance.

In the ensuing decades, researchers have worked to identify particular groups of students who may be affected more negatively by teachers' low expectations for their academic achievement. Particular focus has been on gender (Sadker, Sadker, & Klein, 1991; Shepardson & Pizzini, 1992) and race (Contreras & Lee, 1992).

Jussim and Eccles (1992) tested hypotheses related to self-fulfilling prophecies and perceptual biases based on 98 teachers' expectations for 1,731 students. The theory of self-fulfilling prophecy effects was again supported when teacher expectations predicted changes in student achievement beyond that which could be accounted for by previous achievement. Related to perceptual bias, teacher expectations were more strongly predictive of their evaluations of student performance (classroom grades) than of standardized test scores.

Classroom environment is shaped largely by teacher expectation. Because expectations influence teachers' covert attitudes and overt behaviors (Madden-Szeszko, 2000), all students in a classroom are impacted by the expectations teachers hold for all students. Classroom interactions such as the amount of time a teacher spends with each child, disciplinary techniques, and praise affect both how students feel about school and their interpretation of their abilities.

Crano and Mellon (1978) were among the first researchers to emphasize the importance of the pupil-teacher relationship in students' future academic performance. In a longitudinal study conducted over four years with more than 5,000 students in seventy schools, the researchers found teacher perceptions and expectations to be a reliable predictor of students' later academic potential. The study also pointed to a stronger link between teachers' beliefs about students' social development and future academic success than early evaluations of students' academic potential.

In a study of first grade teachers' beliefs about students' ability and effort, future educational attainment, and predictions for grades one year later, researchers found teachers to believe that their students were capable of achieving a significantly higher level of education than they believed the students would actually achieve (Wigfield, Galper, Denton, & Seefeldt, 1999). Although no significant differences were found for teachers' expectations regarding Head Start and non-Head Start pupils, teacher beliefs did differ significantly in regards to students' ethnicity. It seems the differences between teachers' perceptions of student ability and expectations for grades and educational attainment points to an acknowledgment of the influence of contextual factors on

individuals' performance. Importantly, the teacher expectations predicted students' test performance.

As stated earlier, teachers' perception of their abilities to work successfully with students impacts students' learning outcomes in a number of ways. Additionally, students' internalization of teachers' expectations results in academic performance which is incongruent with the students' true potential. In an effort to further the knowledge and research in the areas of teacher efficacy and expectation, the present study was designed to study initial teacher perceptions of student abilities and the relationship to student academic achievement. Specifically, the study contributes to the literature by providing measures of teacher bias within the classroom. Because the E2M is completed for every student in the classroom, it allows for the investigation of bias based on gender and/or race. Furthermore, the relationship between teacher efficacy and expectation can be assessed.

CHAPTER 3

METHODS

The purpose of this study was to investigate differences in teacher efficacy and expectations for different types of students. This study was specifically focused on examining differences in teacher perceptions by student race, gender, grade level, and behavioral cluster. The study sought to determine the extent to which teacher efficacy and expectation can predict student academic achievement.

This study is an outgrowth of the ACT Early Project funded through the United States Department of Education's Institute for At-Risk Children within the Office of Educational Research and Improvement (R306F60158, R305T990330). The ACT Early Project was a six-year longitudinal study involving elementary school students at-risk because of poor behavioral adaptation to the classroom and their teachers (Baker, Kamphaus, & Horne, 2002). Originally focused on child behavior problems in the K-3 settings, the project began in 1996 and sought to identify individual student variables that contribute to behavioral risk status in early elementary school. The study design grew to include grades K-5 in 1999 with two broad objectives, "(1) to document individual, interactional, and environmental contributors to behavioral risk for students in elementary school, and (2) to use this contextually rich information to help teachers acquire competencies to work effectively with children at high risk of poor behavioral and educational adaptation" (Baker, Kamphaus, & Horne, 1999). Throughout the project's history, data were collected pertaining to student academic and behavioral functioning,

classroom climate, school climate, teacher instructional styles and strategies, and teacher perceptions of students.

The data used for this study were collected in Year 5 of the ACT Early Project. Participants were drawn from a single school district in the Southeastern United States. The data were obtained during the 2000-2001 school year.

Participants

Study participants were thirty-six elementary school (Kindergarten through fifth grade) teachers and 722 students in three public schools that participated in the ACT Early project.

Teachers

Thirty-six elementary school (kindergarten through fifth grade) completed a measure of efficacy and expectation pertaining to each participating student in the classroom as well as a behavioral assessment for participating students. Participation was voluntary, and teachers were given a stipend and continuing education credit, or staff development units, for each year of participation. Demographic data of the teachers is illustrated in Table 2.

Students

All of the participating students were enrolled in regular education classes in kindergarten through fifth grade. Parental consent forms for project participation were obtained at the start of the academic year. The parental consent forms allowed teachers to complete assessment instruments and permitted the research staff to review students' permanent files for the collection of academic and demographic data.

The school district has a considerable number of at-risk students due to a significant poverty rate (approximately 25%; over 70% of students are on free or

reduced-price lunch programs.). All of the schools that participated in the ACT Early Project were designated as Title 1 schools during the period of data collection; schools are given Title 1 designations and substantial federal funding when a large proportion of students live in families with incomes at or below the poverty level. The school district has the following ethnic distribution: 55 % African American, 27% White, 10 % Hispanic or Latino, and 3 % Asian or Pacific Islander (as of 1999). Given the relatively small representation of other ethnic groups, only African American and White students are included in the data analyses. Student demographic data is presented in Table 3.

Procedure

Prior to the start of the 1999-2001 school year, project staff met with school administrators and teachers to detail the program and obtain commitments to participate in the second phase of the six-year study. Teachers were told that consent was entirely voluntary, and some teachers working in participating schools chose not to be involved with the project. At the start of each school year included in the data set, the research staff sent parents/guardians of all students enrolled in regular education classes in grades K-5 information about the project and details of student involvement. Consent forms (Appendix 1) were attached to the information sheets; parents who wished their child to participate in the study returned the signed consent forms. Signed and returned consents indicated permission for teachers to complete behavioral assessments of the students and allowed the research staff to access students' permanent files to collect academic and demographic information. There was no compensation to families or students for participation.

Table 3

Student Demographics

	n	Percent
Gender		
Female	382	53.0
Male	340	47.0
Race		
Black/African American	416	57.5
White/Caucasian American	217	30.0
Asian American/Pacific Islander	15	2.1
Latino	60	8.3
Multiracial	13	2.1
Other	1	.1
Missing	2	.3
Grade		
Kindergarten	103	14.2
First	127	17.5
Second	116	16.0
Third	113	15.6
Fourth	123	17.0
Fifth	140	19.3
Missing	2	.3
Behavioral Cluster		
Well-Adapted	179	24.7
Average	147	20.3
Disruptive Behavior Disorder	87	12.0
Learning Disorder	61	8.4
Physical Complaints and Worry	87	12.0
Severe Behavior Disorder 21	2.9	
Mildly Disruptive	97	13.4

Although the larger project included measures of student behavioral adaptation and classroom climate, only the measures related to teacher efficacy and expectation are presented for analysis in this study. Additionally, parents granted permission for researchers to obtain students' report card grades and scores on standardized tests. Teachers were asked to complete the Efficacy and Expectation Measure (E^2M) (Horne, Dagley, & Socherman, 1999) in the Fall and Spring for each student in their classroom from whom permission was obtained. Data from the E^2M were analyzed with students' grades and standardized test scores obtained with parental consent through school records.

Instruments

The Efficacy and Expectation Measure (E^2M; Horne, Socherman, & Dagley, 1999) is a self-report questionnaire that measures teacher efficacy and expectation for individual students in the classroom. The 8-item questionnaire contains 5 efficacy and 3 expectation items (see Appendix II). The items are responded to along a Likert scale anchored by 1 (highly uncertain/disagree completely) and 5 (highly confident/agree completely). The efficacy items measure the degree to which the teacher feels (a) capable to help this student master the material taught, (b) certain in managing this student's behavior, (c) capable of helping this student to become successful, (d) capable of helping this student behave appropriately in class, and (e) has the skills to work with this student. The expectation items assessed the degree to which the teacher believed the student would (a) be able to accomplish goals, (b) be good at learning new skills, and (c) carry through on responsibilities.

The E^2M was developed in response to a need to assess teacher efficacy and teacher expectation for *individual* rather than *types* of students. Prior to the creation of newer instruments, the Teacher Efficacy Scale (TES, Gibson & Dembo, 1984) was the standard measure of teacher efficacy. The TES measures both Personal Teaching Efficacy and Global Teacher Efficacy, but it does not take into account teachers' perceptions of types of students. Horne, Socherman, and Dagley (1999) addressed this limitation by creating the Teacher Efficacy and Attribution Measure (TEAM). The TEAM uses vignettes describing students exhibiting a range of behaviors to assess teacher efficacy and expectation with different types of students. The vignettes correspond to the seven dimensional clusters of the Behavior Assessment System for Children (see below). The E^2M uses the questions from the TEAM to measure teacher efficacy and teacher expectation for working with actual students in the classroom. Analyses of internal consistency reliabilities yielded Cronbach's alpha coefficients of .91 for the efficacy factor and .94 for the expectancy factor (Horne & Socherman, 1999).

The Behavior Assessment System for Children (BASC, Reynolds & Kamphaus, 1992) is a multimethod, multidimensional approach to measuring positive and negative dimensions of child behavior and personality. The BASC uses both self-report and collateral information to assess children aged 4 to 18. Although there are self-report, parent rating scales, a classroom observation system, and a structured developmental history form, only the teacher rating scale was used in the current project.

The BASC Teacher Rating Scale-Children (TRS-C) measures a range of child behaviors in the classroom and general school setting. The 148 items are responded to on a four point Likert scale anchored by 1 (never) and 4 (almost always). Maladaptive or

clinical problems are assessed along 10 subscales within four domains: Externalizing, Internalizing, School, and Other Problems. The BASC is unique in that it also measures positive dimensions of child behavior using the Adaptive Skills subscales. The internal consistency coefficients for each of the five composite and fourteen subscales are provided in Table 4.

Behavioral profiles of students are constructed using T-scores from each of the subscales. Those profiles create a more meaningful typology of children's classroom behavior (Kamphaus, Petoskey, Cody, Rowe, Huberty, & Reynolds, 1999). The analyses conducted using the normative sample data (Kamphaus, Huberty, DiStefano, & Petoskey, 1997) resulted in seven behavioral clusters: 1) Well-Adapted, 2) Average, 3)Disruptive Behavior Disorder, 4) Learning Disorder, 5) Physical Complaints/Worry, and 6) Severe Behavior Disorder, and 7) Mildly Disruptive.

The Stanford Achievement Test Series, Ninth Edition (Stanford 9) is a norm-referenced test which compares the performance of students with that of grade-equivalent peers in a national normative sample. The stratification variables used in the norming process are geographic region, socioeconomic status, urbanicity, and ethnicity. The Stanford 9 was group administered in classrooms during the Spring term of the academic year.

Classroom grades were assigned to individual students by classroom teachers at four points in the school year. The grading quarters occurred in nine week intervals.

Table 4

BASC Teacher Rating Scales Internal Consistency Coefficients for Scales and Composites.

Composite or Scale	Ages 6 – 7	Ages 8 - 11
Externalizing Problems		
Aggression	.93	.95
Hyperactivity	.83	.87
Conduct Problems	.62	.77
Internalizing Problems		
Anxiety	.76	.79
Depression	.83	.87
Somatization	.78	.77
School Problems		
Attention Problems	.89	.93
Learning Problems	.84	.90
Other Problems		
Atypicalty	.84	.84
Withdrawal	.80	.79
Adaptive Skills		
Adaptability	.74	.83
Leadership	.90	.89
Social Skills	.93	.92
Study Skills	.92	.93

Grades for kindergarten students were based on five measures of adaptive behaviors (Shows self control, Works and plays well with others, Listens and follows directions, Follows school rules, and Good use of time) graded as U= Unsatisfactory, NI= Needs Improvement, S=Satisfactory, G= Good, or E= Excellent. For grades 1-3, students' reading and math performance was graded as U= Unsatisfactory, NI= Needs Improvement, S= Satisfactory, or G= Good. For grades 4-5, students' language arts and math performance was rated as F= Failing/Unsatisfactory, C= Average, B= Good/Slightly Above Average, or A= Excellent/Well Above Average.

CHAPTER 4

ANALYSIS OF THE DATA

This study was designed to assess the relationship that teacher efficacy has with teacher expectation of students. Furthermore, the study examined differences in teacher efficacy and teacher expectation by student gender, race, behavioral cluster, and grade level. Lastly, teacher efficacy and teacher expectation were investigated as predictors of student achievement. Data was collected from 36 teachers who rated 722 students in grades kindergarten through five.

The following null hypotheses were examined for this study:

Null Hypothesis 1: There will be no relationship between teacher efficacy and teacher expectation.

To measure the relationship between teacher efficacy and teacher expectation, a Pearson Product Moment correlation was performed. The relationship was found to be positive ($r = .797$, $p < .001$) for the overall sample, indicating that teacher expectation for students changes in the same direction, and almost the same rate, as teacher efficacy. Furthermore, the relationship between teacher efficacy and teacher expectation was found to be slightly stronger for African-American students than for White students, with $r = .781$ and $r = .733$, respectively, $p < .001$. The means, standard deviations, and numbers of students in each group are presented in Table 5.

Table 5

Correlations Between Teacher Efficacy and Teacher Expectation

	r	n
Race		
African American	.781**	416
White	.733 **	217
Gender		
Female	.786**	326
Male	.799**	300
Grade		
Kindergarten	.771**	83
First	.821**	108
Second	.714**	102
Third	.817**	102
Fourth	.804**	109
Fifth	.852**	122
Cluster		
Well-Adapted	.403**	150
Average	.692**	121
Disruptive Behavior Disorder	.652**	84
Learning Disorder	.736**	53
Physical Complaints/Worry	.754**	75
Severe Behavior Disorder	.691**	19
Mildly Disruptive	.605**	89
Overall	.797**	633

**p < .01

Null Hypothesis 2. There will be no difference in ratings of teacher efficacy between students' race and/or gender or by grade and/or behavioral cluster.

To measure differences in ratings of teacher efficacy between students' race and/or gender or by grade and/or behavioral cluster, a series of oneway Analyses of Variances (ANOVAs) was conducted. For each analysis, teacher efficacy was the dependent variable; student race, gender, grade, and behavioral cluster served as the independent variables. The means, standard deviations, and numbers of students in each grouping are presented in Table 6.

In the first analysis, a 2 (African-American and White) X 2 (Male and Female) ANOVA yielded significant differences in teacher ratings for both race and gender. Based on these findings, teachers report feeling more efficacious with White (M = 23.95, SD = 2.11) rather than African American (M = 21.68, SD = 4.03) students. This finding was significant at the .01 level. Similarly, teachers reported feeling more efficacious with girls than boys. There was not a significant interaction for race and gender found in the analysis. ANOVAs were also conducted to measure differences in teacher ratings of efficacy based on students' grade and cluster. There was not a significant difference in teachers' perceptions of their abilities to work with students across grade levels. Kindergarten teachers, however, reported slightly higher, though non-significant, feelings of efficacy (M = 23.28, SD = 2.75) compared to teachers in higher grades with efficacy ratings ranging from 21.98 to 22.85. Ratings of efficacy with students in different behavioral clusters did reveal significant differences. Not surprisingly, teachers reported feeling most efficacious with students in the Well-Adapted cluster (M = 24.71, SD = .99) and least efficacious with students in the Severe Behavior Disorder cluster (M = 17.74,

SD = 4.49). These findings suggest that teacher efficacy decreases as student behavior becomes more problematic.

Table 6

Means, Standard Deviations, and Sample Sizes for Teacher Efficacy and Expectation Across Grade Level

	Efficacy			Expectation		
	M	SD	n	M	SD	n
Race						
African-American	21.68	4.03	412	11.67	3.19	416
White	23.95	2.11	214	13.92	1.89	217
Grade						
Kindergarten	23.28	2.75	83	13.15	2.40	86
First	22.03	3.65	108	11.89	3.33	109
Second	21.98	3.77	102	12.63	2.90	103
Third	22.69	3.38	102	12.20	3.07	104
Fourth	22.85	3.72	109	12.49	2.98	109
Fifth	22.12	4.15	122	12.45	3.07	122

Null Hypothesis 3. There will be no difference in ratings of teacher expectation between students' race and/or gender or by grade and/or behavioral cluster.

To measure differences in ratings of teacher expectation between students' race, gender, grade, and/or behavioral cluster, ANOVAs were again conducted. The pattern of results was similar to that for ratings of teacher efficacy. Teachers reported holding significantly higher expectations for White (M = 13.92, SD = 1.89) rather than African-American (M = 11.67, SD = 3.19) students in their classrooms. These findings suggest that, in addition to feeling more capable of working with White students, teachers also expect White students to perform better than their African American counterparts. Teacher expectation was also found to be significantly higher for females (M = 12.89, SD = 2.69) rather than males (M = 11.96, SD = 3.24) with no significant differences across grade level. This pattern of teacher reports of expectation for students points to teachers' belief that female students have the ability to perform better than boys regardless of age and that White students also will outperform African American students throughout the elementary grades. Analysis of ratings of teacher expectation for students across behavioral clusters did show significant differences. Teachers were found to have the highest expectations for students in the Well-Adapted cluster (M = 14.78, SD = .70) and lowest expectations (M = 8.70, SD = 2.96) for students in the Severe Behavior Disorder cluster; these findings are consistent with the pattern of teacher ratings of efficacy across the behavioral clusters.

Null Hypothesis 4. Ratings of teacher efficacy will not predict student achievement.

To assess the relationship between ratings of teacher efficacy and student achievement, two general linear models were constructed. In the first model, teacher efficacy was held constant as the independent variable, and report card grades for reading, math, and language arts for each of the grading quarters were used as the dependent variables. Using this regression analysis, teacher efficacy was found to be a significant predictor of student achievement as measured by classroom grades; these results are presented in Table 7. This finding can be interpreted in several ways. One possibility is that teacher efficacy is an accurate predictor of student ability. An alternate interpretation is that lowered teacher efficacy serves a mediating effect, thereby lowering the achievement of students with otherwise comparable abilities. Finally, it is possible that lowered efficacy in working with particular students causes teachers to assign grades through biased eyes. In other words, if a teacher does not feel efficacious in working with a certain group of students, he or she may, consciously or not, judge the work done by those students to be inferior to that done by students with whom he or she feel s more efficacious.

In an attempt to provide a more objective measure of the effects of teacher efficacy, student scores on standardized tests were used as the dependent variables for the second general linear model. Ratings of teacher efficacy were again found to be significant predictors of student achievement. Students with whom teachers felt more efficacious generally performed better on the standardized tests than did students for whom teachers provided lower ratings of efficacy. This pattern held true across several core areas of the standardized tests; the only area in which ratings of teacher efficacy were not found to predict student performance was the language cluster percentile score. These findings are presented in Table 8. Again, these findings give rise to a number of

Table 7

General Linear Model of the Effect of Teacher Efficacy on Classroom Grades

Subject Area/Quarter	R	R^2	F	df
Reading				
First	.501	.262	6.37**	
Second	.572	.327	8.73**	
Third	.560	.314	8.21**	
Fourth	.574	.330	8.85**	
Math[a]				
First	.539	.291	7.40**	
Second	.571	.326	8.70**	
Third	.542	.294	7.49**	
Fourth	.510	.260	6.33**	
Math[b]				
First	.506	.256	4.21**	
Second	.585	.342	6.36**	
Third	.560	.314	5.60**	
Fourth	.563	.317	5.68**	
Language				
First	.680	.463	9.01**	
Second	.580	.337	5.93**	
Third	.596	.355	6.41**	
Fourth	.574	.329	5.73**	

[a]Grades 1 – 3
[b]Grades 4 – 5

Table 9

General Linear Model of the Effect of Teacher Efficacy on Stanford Nine Test Scores

Component	R	R^2	F	df
Reading				
Scaled	.481	.231	3.34**	
Percentile	.518	.268	4.07**	
Math				
Scaled	.423	.179	2.43**	
Percentile	.558	.311	5.02**	
Language				
Scaled	.503	.253	3.76**	
Percentile	.311	.097	1.20	
Battery Percentile	..589	.347	5.90**	
Core Battery Percentile	.586	.343	5.80**	

**p < .01

possible interpretations. As previously stated, teacher efficacy may in fact be an accurate predictor of student achievement or it may have a mediating effect, limiting the performance of students who are equally capable to those for whom teachers feel more efficacious. Additionally, it is important to recall that standardized tests have long been criticized for being culturally biased. It is therefore possible that the lowered test scores by students with whom teachers feel less effective (African Americans) are reflective of bias within the test construction, not of accurate assumptions by teachers of the students' achievement capabilities.

Null Hypothesis 5. Ratings of teacher expectation will not predict student achievement. To assess the relationship between teacher expectation and student achievement, analyses similar to those for the previous hypothesis were used with teacher expectation, rather than efficacy, used as the independent variable. In the analysis using report card grades for reading, math, and language arts for each of the grading quarters, teacher expectation was found to be a significant predictor of student achievement. The results of the general linear model are presented in Table 9. These findings are consistent with the self-fulfilling prophecy effect. It is possible that teachers are able to assess, accurately, early in the school year how well their students will perform based on their perceptions of students' ability and effort, however, there is another possible explanation for these findings. Again, the assigning of grades to students for whom teachers hold lowered expectations may be tainted by those expectations. Teachers may be less likely to recognize and reward the efforts of students whose success is not expected. Using standardized test scores as the measure of student achievement, ratings of teacher expectation were again found to be significant predictors of student achievement. Students for whom teachers held higher expectations performed better on the standardized tests than did students for whom teachers held low expectations. This pattern held true across the core areas of the standardized tests. These findings are presented in Table 10. Again, these findings give rise to a number of possible

Table 10

General Linear Model of the Effect of Teacher Expectation on Stanford Nine Test Scores

Component	R	R^2	F	df
Reading				
Scaled	.616	.379	9.97**	
Percentile	.636	.404	11.07**	
Math				
Scaled	.573	.328	7.98**	
Percentile	.677	.459	13.83**	
Language				
Scaled	.636	.404	11.07**	
Percentile	.375	.141	2.68**	
Battery Percentile	.699	.489	15.60**	
Core Battery Percentile	.695	.483	15.28**	

**p < .01

interpretations. As previously stated, teacher expectation may be an accurate predictor of student achievement or it may have a mediating effect, limiting the performance of students who are equally capable to those for whom teachers have high expectations. Additionally, it is important to recall that standardized tests have long been criticized for being culturally biased. It is therefore possible that the lowered test scores by students of whom teachers expect less (African Americans) are reflective of bias within the test construction, not of accurate assumptions by teachers of the students' achievement capabilities.

CHAPTER 5

DISCUSSION AND RECOMMENDATIONS

Summary of the Study

One area of educational practice that has come under increasing study over the last several decades is that of the teacher-pupil relationship. More specifically, researchers have found the variables of teacher efficacy and teacher expectation to have profound impact on the classroom adaptation of students. These factors have been shown to effect student performance goals and motivation to learn (Herman, 2001; Midgley, Feldlaufer, & Eccles, 1989) and student achievement (Ashton & Webb, 1986). High teacher efficacy is also related to the raising of end-of-year goals for students (Allinder, 1995); higher goals and expectations for students have long been established as important for student achievement (Alvidrez & Weinstein, 1999; Miller & Turnbull, 1986; Rosenthal & Jacobson, 1968).

Teacher efficacy is defined as beliefs about the impact of one's teaching on student performance. Ashton and Webb (1986) limit the definition to the set of expectations teachers hold for the influence of their instruction independent of variables such as student ability and environmental factors. In other words, teacher efficacy is the confidence that a teacher holds that he/she has the capability of promoting student learning. These expectations influence instructional style, interactions with students, and student achievement (Socherman, 1999).

Classroom environment is shaped largely by teacher expectation. Because expectations influence teachers' covert attitudes and overt behaviors (Madden-Szeszko, 2000), all students in a classroom are impacted by the expectations teachers hold for all students. Classroom interactions such as the amount of time a teacher spends with each child, disciplinary techniques, and praise affect both how students feel about school and their interpretation of their abilities.

Procedures

This study is an outgrowth of the ACT Early Project, a six year longitudinal study involving elementary school students at-risk because of poor behavioral adaptation to the classroom and their teachers (Baker, Kamphaus, & Horne, 2002). The purpose of the project was to identify individual student variables that contribute to behavioral risk status in early elementary school. There were two main objectives of the ACT Early Project, "(1) to document individual, interactional, and environmental contributors to behavioral risk for students in elementary school.

This study was designed to determine the relationship between teachers' efficacy and expectations and students' academic performance. Specifically, the study measured differences in teacher efficacy and expectation by students' gender, race, behavioral cluster, and/or grade level and how this relates to academic performance.

Teachers

Thirty-six elementary school (kindergarten through fifth grade) completed a measure of efficacy and expectation pertaining to each participating student in the classroom as well as a behavioral assessment for participating students. Participation was

voluntary, and teachers were given a stipend and continuing education credit, or staff development units, for each year of participation.

Students and Schools

The 722 participating students were enrolled in regular education classes in kindergarten through fifth grades. The school district has a considerable number of at-risk students due to a significant poverty rate (approximately 25%; over 70% of students are on free or reduced-price lunch programs.). All of the schools that participated in the ACT Early Project were designated as Title 1 schools during the period of data collection. Given the relatively small representation of other ethnic groups, only African American and White students are included in the data analyses.

Instruments

The Efficacy and Expectation Measure (E^2M; Horne, Socherman, & Dagley, 1999) is a self-report questionnaire that measures teacher efficacy and expectation for individual students in the classroom. The 8-item questionnaire contains 5 efficacy and 3 expectation items (see Appendix II). The items are responded to along a Likert scale anchored by 1 (highly uncertain/disagree completely) and 5 (highly confident/agree completely). The efficacy items measure the degree to which the teacher feels (a) capable to help this student master the material taught, (b) certain in managing this student's behavior, (c) capable of helping this student to become successful, (d) capable of helping this student behave appropriately in class, and (e) has the skills to work with this student. The expectation items assess the degree to which the teacher believes the student will (a) be able to accomplish goals, (b) be good at learning new skills, and (c) carry through on responsibilities.

The BASC Teacher Rating Scale-Children (TRS-C; Reynolds & Kamphaus, 1992) measures a range of child behaviors in the classroom and general school setting. The 148 items are responded to on a four point Likert scale anchored by 1 (never) and 4 (almost always). Maladaptive or clinical problems are assessed along 10 subscales within four domains: Externalizing, Internalizing, School, and Other Problems. The BASC is unique in that it also measures the domain of positive dimensions of child behavior using the Adaptive Skills subscales.

Behavioral profiles of students are constructed using T-scores from each of the subscales. Those profiles create a more meaningful typology of children's classroom behavior (Kamphaus, Petoskey, Cody, Rowe, Huberty, & Reynolds, 1999). The analyses conducted using the normative sample data (Kamphaus, Huberty, DiStefano, & Petoskey, 1997) resulted in seven behavioral clusters: 1) Well-Adapted, 2) Average, 3) Disruptive Behavior Disorder, 4) Learning Disorder, 5) Physical Complaints/Worry, and 6) Severe Behavior Disorder, , and 7) Mildly Disruptive.

The Stanford Achievement Test Series, Ninth Edition (Stanford 9) is a norm-referenced test which compares the performance of students with that of grade-equivalent peers in a national normative sample. The Stanford 9 was group administered in classrooms during the Spring term of the academic year.

Classroom grades were assigned to individual students by classroom teachers at four points in the school year. The grading quarters occurred in nine week intervals. For the purposes of this study, student grades for the fourth grading period were used in the analyses.

Research Hypotheses

The current study was designed to assess the relationship between teacher efficacy and teacher expectation of students. Previous research has examined the relationship between teacher efficacy and teacher expectation within the seven behavioral clusters (Socherman, 1999) and differences in teachers' ratings of students' social-emotional behavior based on student race, gender, or socioeconomic status (Dulin, 2000). Building on these works, this study examined differences in teacher efficacy and teacher expectation by student gender, race, behavioral cluster, and grade level. Lastly, teacher efficacy and teacher expectation were investigated as predictors of student achievement.

Null Hypothesis 1. There will be no relationship between teacher efficacy and teacher expectation.

Null Hypothesis 2. There will be no difference in ratings of teacher efficacy by students' race and/or gender or by grade and/or behavioral cluster.

Null Hypothesis 3. There will be no difference in ratings of teacher expectation by students' race and/or gender or by grade and/or behavioral cluster.

Null Hypothesis 4. Ratings of teacher efficacy will not predict student achievement

Null Hypothesis 5. Ratings of teacher expectation will not predict student achievement.

Results

The first hypothesis tested measured the relationship between teacher efficacy and teacher expectation. Results indicated that there is a strong positive correlation between teacher efficacy and teacher expectation across the sample at .797 ($p < .001$). The relationship was slightly stronger for African American rather than White students (.781 and .733, respectively; $p < .001$). The findings suggest that teachers' expectation for student success increases when teachers feel more effective in working with those

students. Conversely, it is possible to argue that teachers' efficacy increases when they expect students to be successful. Certainly, causation cannot be determined by the correlation. The second research hypothesis assessed differences in ratings of teacher efficacy based on students' race, gender, grade, and behavioral cluster. Significant differences were found with each independent variable other than grade. Teachers reported feeling more efficacious with White than with African-American students, and teacher ratings for girls were significantly higher than for boys in the classroom. There was not a significant difference in teachers' perceptions of their abilities to work with students across grade levels. Furthermore, teachers reported being more comfortable working with students in particular behavioral clusters.

Teachers reported feeling most efficacious with students in the Well-Adapted , Average, and Physical Complaints/Worry clusters. This finding is not surprising as students in these clusters exhibit few behaviors that would interfere with learning. As student behavior became more problematic, teachers felt less efficacious. Teachers reported feeling somewhat more efficacious working with students in the Mildly Disruptive cluster than with students in the Learning Problems cluster. These results may be due to teachers' perceptions about the stability and/or breadth of a student's difficulty. Teachers may be hopeful that students' mildly disruptive behavior will improve under the teacher's tutelage or they may feel that the difficulty will not be an insurmountable obstacle in the learning process. Learning problems or disabilities, however, may seem more permanent, thereby lowering teachers' confidence in working successfully with students in this cluster. Teachers reported feeling least confident in having a positive impact with students in the Disruptive Behavior Disorder and Severe Behavior Disorder

clusters. It is important to take note of the trend in standard deviations corresponding to teachers' reports of efficacy. The standard deviations increased as mean efficacy ratings decreased. This means that there was a wider range of responses regarding students in the more problematic behavior clusters. This finding suggests that certain teacher characteristics affect perceptions of efficacy as much as student characteristics.

The lack of significant differences in ratings of teacher efficacy across grade levels suggests that teacher perceptions are influenced by more fixed characteristics of students –such as race, gender, and behavioral type- rather than more external or temporary factors such as age and grade. This finding may be significantly influenced by the mission of training programs from which teachers emerge as well as the characteristics of teachers themselves. The majority of teachers in the schools studied were White females; they may feel most efficacious working with students whom they perceive to be most like themselves. Training programs have been criticized over the years for failing to prepare teachers to manage classrooms effectively (Landau, 2001); therefore, it is not surprising that teachers feel less efficacious as student behavior becomes more problematic. Traditional teacher preparatory programs do not include directed instruction regarding working with students who exhibit disruptive or pathological behaviors in the classroom. Although some teachers, as evident in the variability of responses, do appear confident in working with these types of students, the average classroom is not equipped to deal with students with special behavioral needs.

Another purpose of the study was to assess the relationship between teacher expectation and students' race, gender, grade, and behavioral cluster. The pattern of results found for these analyses were similar to those regarding differences in teacher

efficacy. Teachers reported having higher expectations for White students than for African American students and for girls rather than boys. No significant differences were found for grade level, and expectations were higher for students in the most adaptive behavioral clusters.

Given the high correlation between teacher efficacy and teacher expectation, it is not surprising that teachers expect African American students to perform at lower levels than White students. Because teachers themselves report feeling more efficacious with White students, it would follow that they would also expect more of those students. Previous research has shown that teachers tend to attribute student success to the efforts of teachers and student failure to characteristics of the students themselves (Beckman, 1970). Therefore, it is consistent that teachers would expect success from students with whom they believed their efforts would be most profitable.

Teachers reported having higher expectations for female students ($\underline{M}$ = 12.89,$\underline{SD}$ = 2.69) than for males ($\underline{M}$ = 11.96, $\underline{SD}$ = 3.24). The findings suggests that teachers believe that girls will be more successful than boys in a) accomplishing goals, b) learning new skills, and c) carrying through on responsibilities. Again, these findings must be considered with regard to the characteristics of the population studied. The current study did not include analyses of differences in perception based on teacher gender. As the majority of teachers in this sample were female, future work should investigate expectancy differences based on gender with a mixed sample.

Teachers reported holding the highest expectations for success of students in the Well-Adapted cluster ($\underline{M}$ = 14.78 out of 15, $\underline{SD}$ = .69). Expectations for students in the Average, Physical Complaints/Worry, and Mildly Disruptive clusters ranged from 12.85

to 12.93. These results suggest that teachers have few concerns about the future success of students with considerable adaptive traits. Results for students with slight or transient behavior difficulties reflect some worry on the teachers' part indicate that expectations decrease as problematic behaviors increase. Although learning difficulties do not necessarily coincide with behavior problems, teachers reported having only slightly higher expectations for students in the Learning Problems cluster (M = 9.36, SD = 3.10) than for students in the Disruptive Behavior Disorder cluster (M = 9.23, SD = 2.94). Again, this would seem to be due to teachers' perceptions about the pervasiveness and permanence of learning problems. The ratings may reflect teachers' assumptions regarding the amount of difficulty that students with learning problems will encounter throughout their school years rather than bias about particular students. The lowest expectations were reported for students in the Severe Behavior Disorder cluster (M = 8.70, SD = 2.96).

The fourth and fifth research questions addressed in the study sought to determine the relationship between ratings of teacher efficacy/teacher expectation and student achievement. General linear models were constructed to determine whether or not teacher perceptions predicted student achievement. Results of the statistical analyses found that ratings of teacher efficacy predicted student achievement as measured by both classroom grades and standardized test scores. These results may indicate that teachers are able to assess how successful their efforts in working with particular students will be. Low ratings of teacher efficacy early in the school year may indicate that teachers are able to assess with which students they will form positive, encouraging relationships and which students for whom it will be more difficult to form a helpful working alliance.

Teachers' interactions with students with whom they feel efficacious may be qualitatively different from those with whom they feel less capable of working effectively. These interactions may be marked by more one-on-one time, more positive reinforcement, and a more positive classroom environment (Ashton & Webb, 1986), all of which have been shown to affect student achievement (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977). Similar results were found for the impact of teacher expectation on student achievement.

It is important to keep in mind that one measure of student achievement, classroom grades, was not an objective measure. Because teachers were responsible for assigning report card grades to all students, there may have been some response bias coloring this measure of student achievement. Teachers who felt frustrated working with particular students may have been influenced by those negative perceptions when assigning grades rather than using only student performance to determine classroom grades. Teachers have a great deal of discretion in assigning grades, and students for whom teachers hold positive perceptions may benefit more often from the "benefit of the doubt."

Implications

The impact of teacher efficacy and expectation is undeniable. Students achieve more when more is expected and when their teachers feel capable of working effectively with them. Previous studies have documented the presence of gender (Doherty & Connolly, 1985; Jussim & Eccles, 1992) and racial bias in the classroom (Dusek & Joseph, 1983); this study has shown that teachers' perceptions are also influenced by students' behavioral cluster. Furthermore, it is clear that students rise- or fall- to the level of their teachers' expectations for them. The onus, therefore, is upon educators and

researchers to address the factors that have a negative impact on teachers' perceptions of students.

Few classroom teachers would describe themselves as racist or sexist, but the research findings make it clear that teachers hold different views of students based largely on race and gender. One explanation for the present findings may be bias based on race and gender. If this is accurate, then strong action must be taken. Bias in teachers' perceptions of students cannot be corrected until it is addressed. Teachers must be made aware of their biases while being supported in eliminating them. It will be critical that this be done in a non-judgmental fashion and to the benefit of students rather than the focusing on the shortcomings of teachers. Although this issue should first be confronted before individuals step into a classroom, it is imperative that ongoing training and education on the matter be a part of the expected professional development of educators. Failure to do so will only widen the achievement gap that is separating students.

Another explanation for the findings may be that teachers' ratings of efficacy and expectation reflect accurate assessments of classroom dynamics and functioning. Teachers' experience in working with large groups of children over a number of years may foster an ability to identify precisely which students will be most successful. If this is accurate, then the focus of intervention should be on modifying teachers overt behaviors and providing them with the skills to work with all students. Rather than targeting teachers' internal perceptions, interventions should emphasize the role teachers can take in overcoming the obstacles that leave some students at-risk for low achievement. Regardless of the root cause of the problem, the answer lies in better

training for teachers because educators have no control over other aspects of students' experience.

Exposure to difficult or anxiety-producing situations may seem too simplistic an answer for addressing this complicated issue, but it may well be a critical component in reducing the effects of biased teacher perceptions on student performance. Pre-service teachers admit to feeling less prepared for working with African American students (Pang & Sablan, 1998); it can be assumed that they hold similar reservations for working with Latino students as well. Equally important, teachers learn few classroom management strategies for dealing with particularly difficult students. It follows then that pre-service teachers should receive more training in dealing with these groups of students because exposure breeds familiarity, and familiarity is an integral component of increasing efficacy in completing tasks. Expectations greatly influence an individual's sense of efficacy (Bandura, 1978), and expectations tend to be more positive in situations in which one is more comfortable. Familiarizing teachers with a variety of situations and students will be helpful in bolstering both efficacy and expectation.

Recommendations for Future Research

There remain a number of open questions in the area of the impact of teacher efficacy and expectation on student academic achievement. Because of the relationship between socioeconomic status and race, a primary aim of future studies should be to isolate the effects of student financial status on teacher perceptions. Additionally, teacher race and gender need to be considered in forming a complete understanding of the effects of teacher efficacy and expectation.

The degree of variability in ratings of teacher perceptions of students in the more behaviorally challenging clusters suggests that there may be certain teacher traits that influence how students are perceived. One aim for future studies should be to investigate the teacher variables such as race, years of experience, and attributional style that may impact teacher perceptions. This is particularly important when considering the classroom in dynamic, interactional terms. The pupil-teacher relationship is a two-way process, therefore teacher variables must be understood as fully as those of the student. This study did not use any measures from the students themselves. It will be important to gain more knowledge about students' perceptions of their teachers beliefs about them. Differences in how students internalize the messages, both overt and covert, they receive in the classroom may have a significant effect on the impact of teacher efficacy and expectation.

The findings of this study support previous evidence that teachers feel differentially efficacious and hold dissimilar expectations for students in their classrooms. Some of these differences in perception appear to be based on race, gender, and behavioral profile. These trends in teacher ratings of efficacy and expectation are of paramount import because teachers' perceptions have been found to predict student achievement. Educators must become more thoughtful about how teachers are prepared to enter diverse classrooms.

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