SELF PERCEPTIONS OF SOCIO-ECONOMICALLY DISADVANTAGED CHILDREN IN ELEMENTARY SCHOOL

by

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(Under the Direction of Randy W. Kamphaus)

ABSTRACT

Self-perceptions of socioeconomically disadvantaged children in school were examined in a large sample of elementary school students. Factor Analysis revealed three constructs of student self-report. Varimax rotation identified four factors of interest, two of which combine to form the construct, motivational support in the classroom. Each factor was considered individually and items with the highest factor loadings were selected to assess the construct. Student ratings of school satisfaction, motivational support in the classroom, and academic competence were then examined as predictors of academic outcomes. Hierarchical multiple regression analyses revealed that when compared to teacher ratings of student behavior, student self-report ratings accounted for a significant proportion of the variance in SAT 9 Battery Total scores. Student’s perceptions of academic competence proved to be a particularly strong predictor of test scores. These results provide particular support for the use of student self-report in understanding the academic experience of elementary aged children. In future research, perceived academic competence should be further explored as a construct predicting academic outcomes in young school children. By asking children about their academic experiences, educators may be able to take steps to stop the vicious cycle of school failure and poverty.

INDEX WORDS: Student self-report, Academic competence, Motivation, School satisfaction, Academic outcomes
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by

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A Dissertation Submitted to the Graduate Faculty of The University of Georgia in Partial fulfillment of the Requirements for the Degree

DOCTOR OF PHILOSOPHY

ATHENS, GEORGIA

2006
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In loving memory of my aunt and godmother

Lynn Grubbs Kroncke

1949-2004

Her never-ending faith and radiant spirit have been and will continue to be an inspiration to me always.
ACKNOWLEDGEMENTS

I would like to express gratitude to my mentor and major professor Dr. Randy Kamphaus for his wonderful guidance and patience with me over the past four years. It has been a pleasure and I could not have asked for a better role model in my academic career. I would also like to recognize the support of my committee, Dr. Shawn Glynn, Dr. Andy Horne, and Dr. Roy Martin. Without their help, I would not have been able to complete this daunting task. Also I would like to thank Veena, my statistics consultant, for the refresher course on Multiple Regression and Factor Analysis. Finally I would like to show appreciation for my friends and family, particularly my parents, for their never-ending support and encouragement as I completed my twenty plus years of schooling.

Erin, Anne, Meghan and the ACT Early team, thanks for great data collection and sound advice as I have completed this dissertation. You are the best research group I could ask for!
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Chapter 1

Introduction and Review of the Literature

Current trends in education have led to an interest in the contribution of non-academic factors to academic success in school (Baker, 1998). Unfortunately, the relationship between these factors and school success has not been well investigated (Becker, 2002). It is through social encounters that children form shared meaning and a sense of purpose and identity with the school process (Dewey, 1999). Research with adolescents has examined the relationship between perceived satisfaction with school, including relationships with teachers and peers, and academic success, however little is known about school affiliation and satisfaction among younger students (Murdock, 1999). This study hypothesized that economically disadvantaged student’s self-perceptions of experiences in elementary school may be as able a predictor of their academic success as the more established indicator, baseline mental health. Said another way, this study posed the question, “Can educators obtain a reliable estimate of whether or not a student will succeed in school, simply by asking the child about his or her current school experiences.”

School is a major context of both child and adolescent development. It has influence extending beyond just the academic domain and into social/emotional functioning; it can ultimately determine lifetime productivity and happiness (Roeser, Eccles, & Stroebel, 2000; Risi, Gerhardstein, & Kistner, 2003). The failure to graduate from high school is an individual as well as a societal problem. Individual consequences include low-level occupations, decreased lifetime earnings, and unemployment, while societal costs include an increase in the number of children born into poverty, increased
taxes to subsidize public assistance, and higher unemployment rates. An individual’s success in school directly impacts economic, social and personal well-being (Risi et al., 2003).

Child mental health and achievement must be examined through integrative, multilevel, and multidisciplinary models of children in schools (Masten, 2003; Rigeisen, Henderson, & Hoagwood, 2003). The ultimate goal of this research should be to integrate education, health, and mental health to support at-risk youth in an educational setting (Noam & Hermann, 2002). Mental health, as measured by the DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition), has consistently been the gold standard for identifying children at-risk for school failure. Children are identified for treatment when exhibiting symptoms such as aggression, hyperactivity, inattention, conduct problems, depression, anxiety, or learning problems at significant levels. These symptoms are organized in the DSM-IV classifying children as disordered. Common disorders include, but are not limited to, Attention Deficit-Hyperactivity Disorder, Oppositional Defiant Disorder, Generalized Anxiety Disorder, and Conduct Disorder. However, when examining mental health and achievement in a school setting, other contextual factors not considered by the DSM, like peer and teacher relationships, can be enlightening. This perspective has implications for research, treatment, and prevention efforts involving schools. As researchers, it is important to take a more holistic, ecological approach when studying the student and his or her development. We need to consider not only mental health as a predictor of success in school and lifetime productivity, but also student perceived support and competence in school.

When examining competence in school, it is clear that a significant gap exists between the achievement levels of economically disadvantaged students and that of their
non-disadvantaged peers (Jencks & Phillips, 1998; Valencia & Suzuki, 1997). It is important to note that there is a disproportionate representation of ethnic minority students in this economically deprived group. This is not a new concept; in fact inadequate schooling and poor student performance have been the center of debate and reform for years. However, more recently, research has identified components that influence achievement outcomes in disadvantaged students and those who may not be at-risk for poorer school outcomes (Becker & Luthar, 2002). Children born into poverty are at a disadvantage on many levels. Considering Bronfenbrenner’s ecological model of development, we see that economically disadvantaged students may lack support on the level of family, environment, and community. The lack of necessary support seems to lead inevitably to poorer school outcomes; therefore, schools have the opportunity to play a large role by supporting these children (Gutman & Midgely, 2000). For this reason, it may be particularly important to consider teacher and peer relationships for disadvantaged children. These relationships may be crucial to academic success, and can be examined through student ratings of perceived support.

This work begins with a review of the theoretical framework guiding this investigation. Next, I examine the validity of student perceptions of school experiences, teacher ratings of mental health, and key methodological issues in the existing research.

**Theoretical Framework**

The model guiding this empirical work is based primarily in ecological theory (Bronfenbrenner, 1989). The ecological framework identifies connections between the student and his or her surrounding community including family, school, and peer influences (Becker, 2002). In order to study the individual it is important to consider the broader framework in which he or she exists. To consider a child’s development out of this context would be to ignore crucial factors shaping the individual. Bronfenbrenner
(1989) introduces several levels of influence in an individual’s environment. The first and most distal level is the macrosystem. This level includes overarching cultural values and beliefs of the community that may affect the developing child. The next level, exosystem, includes the extended family (those not living in the home), neighbors, employers, the school board, and community health services. The exosystem impacts people who in turn impact the child. The child does not participate directly in this sphere of influence, but is affected by it. The mesosystem includes social structures and immediate settings of the community, including doctor’s offices, church, and school, as well as the child’s home. Children behave and react differently in various settings. The closest level of influence refers to those that directly touch the child, the everyday face to face contacts. This level of interaction is referred to as the microsystem. At this level of influence, Bronfenbrenner emphasized the importance of bidirectionality, or the idea that the child influences those he or she touches, and that peers, teachers, parents and others that come in contact with the child play a large role in influencing him or her (1979).

Consistent with this model, it is necessary to investigate the importance of peer and teacher relationships in the classroom, overall school influences, and the role of academic competence and beliefs and values on student academic performance. This study attempted to access students own perceptions of the environment and how it impacts their lives. The current study is also grounded in motivation research (Wigfield & Eccles, 1992) as it seeks to link students’ expectancies of academic performance and beliefs about their own competencies to achievement outcomes.

Finally, this study considered the developmental psychopathology perspective by assessing risk and teacher reported mental health status of students. The role of student mental health adjustment and adaptive behaviors has been stressed previously by Masten
and Garmezy (Garmezy, Masten, & Tellegen, 1984; Masten, 2000). Hence, estimates of both adaptive and maladaptive behavioral functioning were included in this study.

Self-Perception of Student Experiences

The four critical components of support for academic achievement in students include: academic and school attachment, teacher support, peer values, and mental health (Becker & Luthar, 2002). These are factors that might generalize across ethnicity and level of poverty to influence achievement performance. Three of the above components are significantly influenced by student perception of school experiences. In fact, previous research has indicated that student perceptions of the school experience can be critical when considering student performance and overall achievement in school (Baker et al., 2002; Becker & Luthar, 2002; Birch & Ladd, 1997; Elliot, Hufton, Illushin, & Lauchlan, 2001; Hamre & Pianta, 2001; Murdock, 1999; Roeser, Eccles, & Sameroff, 2000; Samdal, Wold, & Bronis, 1999).

There is a large body of work investigating teacher and student relationships and school climate as predictors for educational outcomes. Typically this research has used teacher ratings and perceptions instead of student self-report of these variables. Hamre and Pianta studied 179 children in grades K-8 and examined kindergarten teachers’ perceptions of relationships with students predicting work habits, disciplinary records, grades, and test scores. The theoretical basis for their work stemmed from Bolby’s attachment theory, which states that early experiences and relationships with adults are crucial for promoting development (1982). The results of their study showed that relational negativity as rated by teachers predicted behavioral outcomes through middle school and accounted for a significant portion of the variance in test scores, grades, and work habits in lower elementary school. Weaknesses of this study included excluding data on the relationships between students and upper elementary or middle school
teachers, and relying solely on teacher report to predict outcomes. Teacher expectations
tend to carry from year to year and teachers assign grades and work habit marks, both of
which were used as outcome measures in this study. Teachers may take into account
more than just student performance when evaluating achievement, indicating that grades
may not be completely unbiased (Bacete & Badenes 2003). One may question whether
teacher expectations or student performance accounted for more variability in this study.
On the other hand, this study identified the potential importance of student perceptions,
suggesting that this research and its findings could be extended and generalized (1998).
Lending more credibility to these findings, Lynch and Cicchetti (1992) demonstrated that
children’s perceptions can be valuable indicators of relationship quality as well (Pianta,
Stohlman, & Hamre, 2002).

Becker and Luthar (2002) used student self-report among middle school students
to assess three components of social-emotional functioning in school: academic and
school attachment, teacher support, and peer values. The study participants were 636
seventh grade students, half from a low socioeconomic status urban school setting and
half from a higher economic status suburban school district. Students completed self
report measures on academic competence and on motivation, including peer and teacher
support and economic value of education motivation. Student-rated school experience,
teacher and peer relationships, and perceived social support appeared to be particularly
important for disadvantaged students’ achievement success, findings that are consistent
with other research indicating that a supportive relationship with an adult is one of the
best protective factors for resilience (Becker & Luthar, 2002; Lee, et al. 1999; Sebring et
al. 1996). Their study also found that peers’ perceived academic support was associated
with achievement performance. Academic achievement was linked to emotional health,
as reported by students, as well as mental health (Becker & Luthar, 2002; Roeser et. al,
Becker and Luthar pointed out that while current intervention programs such as the No Child Left Behind initiative have many school performance outcomes, they do not pay attention to the social-emotional health of students. In light of their finding that perceived social support is important, they proposed that other forms of intervention be explored. In other words, educators should not develop plans to raise academic standards without attending to social-emotional needs (Thomas & O’Kane, 2000).

These findings are consistent with decades of research indicating that student perception of teacher support can influence academic success (Brophy & Good, 1970). Children look to these non-parental adults as role models, and when teachers are committed to them, children tend to perform better in school. It is has been argued that higher standards are warranted for teachers and the support they give students (Murdock, 1999). It has been further hypothesized that cultural minority students may feel the least supported by their teachers, and this lack of perceived support can greatly influence their performance (Suarez-Orozco & Qin-Hilliard, 2004). In a 1998 study Brophy concluded that successful achievement outcomes come from a safe climate, strong leadership, positive teacher attitudes and expectations, emphasis on instruction, monitoring of student progress, parent involvement, and an emphasis on academic achievement. Many of these variables can be assessed through student self-report.

Roeser, Eccles, and Sameroff also utilized student self-report in their work with adolescent academic and social emotional development (2000). By assessing self-report of academic competence, value of school, emotional distress, GPA, and behavior problems, the researchers were able to better understand the adolescent experience in school. The original study discussed here included 1480 primarily African-American (67%) and Caucasian (21%) families, each having an adolescent child beginning seventh grade. Data were collected over a two year period. Adolescents were interviewed and
rating scales were administered. An academic competence scale tapped self-perceptions of student ability in different subjects, a valuing-of-school scale assessed students’ interest in school and expectations for positive life outcomes, and an emotional distress scale examined self-reported feelings of anger, sadness, and hopelessness. Academic achievement data were collected from students’ records at the end of each school year. Multiple Regression was used to predict outcomes of interest. Research found that self-report of academic competence and value-of-schooling was a good predictor for school problem behaviors. Academic motivation was identified as a key protective factor, and low value of schooling was identified as a marker for difficulties. This study supports Erikson’s (1968) view that adolescent perceptions of teachers and school personnel play a key role in student success.

When considering achievement success, while the middle school context is important (Pianta & Walsh, 1998), it may also be necessary to consider child perceptions of school experiences at the elementary school level. Early intervention and prevention efforts are the key to serving children at a young age before problems escalate (Sheridan & Gutkin, 2001). While the studies just reviewed relied primarily on the self-report ratings of adolescents, research suggests that younger children can provide reliable report of their own thoughts, feelings, and experiences (Kamphaus & Frick, 2002).

**Child Development and Validity of Self-Report**

Erikson (1968) posited that adolescent perceptions of teacher and school play a big role in student motivation. My aim is to extend this theory to the elementary level, where research has addressed the pitfalls of eliciting information from children and attempted to determine the degree to which children are accurate reporters (Stone & Lemanek, 1990). As I attempt to address the idea of accepting self-report from children,
it is imperative to consider the developmental period of middle childhood, a topic that is discussed in the following paragraphs.

During middle childhood, children begin to develop a sense of self-esteem and individuality. They are apt to compare themselves with their peers, and they come to expect that they will succeed or fail at different tasks. In this important time in their lives, they develop an orientation towards achievement that will affect their response to school and other challenges for many years to come (Eccles, 1999).

When people consider the dramatic changes of childhood, they think of the first few years of life. The social, biological and cognitive changes of middle childhood, however, are certainly dramatic as well. Children develop competency, autonomy and relatedness to others. They master new skills, make independent decisions, and foster social relationships outside the family (Eccles, 1999).

Erikson stressed the importance of middle childhood in development. He said that children move from the home into wider social contexts that strongly influence their development. In increasing their sense of industry, children learn to cooperate with peers and adults. It seems that if children do not develop the new skills introduced in school, this can lead to a sense of inferiority, which may have intellectual, emotional, and interpersonal consequences (1968).

Sadly, children who do not see themselves as competent report depression, social isolation, anger, and aggression. At this time period, a negative pattern of adaptation to schooling may be established. Those with early difficulties are likely to experience an increased risk towards behavioral, academic, and psychiatric difficulty (Eccles, 1999). In general, starting with elementary school, expectations for school success tend to decline in children, and this can continue through adolescence, leading students to
withdraw from classes or even drop out entirely. We must pay attention to children’s perceived competencies and beliefs about school at a young age in order to stop this trend. Middle childhood is a time of self awareness, social comparison, and development of self-esteem (Erikson, 1968). Family, teachers, school and opportunities contribute significantly to a child’s ability to deal with the changes faced in middle childhood and then later in adolescence. Because this time period may establish the framework for attitudes and beliefs later on, we must seriously consider incorporating self-report measures with children of a younger age.

Turning to the topic of self-report validity, while child self-report is more accepted than it used to be, as we come to understand the developmental level of children ages 6-11, there are certain age limitations that one must consider. It seems that a certain level of cognitive ability is necessary for children to be reliable self-reporters (Witt et al., 1998). Lower ability children were found to respond randomly to self-report measures because they could not understand the items. Also, children must have adequate reading skills to respond to a paper and pencil task, and they must be able to adequately report emotions. Reynolds (1993) noted that the number and complexity of emotions experienced and expressed by children increases with age. Interestingly, young children express emotions about themselves in highly positive terms, but these scores decline as children get older and are able to make more realistic comparisons between themselves and others (Bender, 1997). Also, young children often give socially desirable responses, and may be less likely to be honest. These limitations to using self-report data from very young children may be important to consider.

Due to many of the issues addressed above, children under age seven are generally not asked to self-report, though research suggests they may be able to report
more accurately than was previously assumed (Witt, Cavell, Heffer, Carey, & Martens, 1998). The fact remains that there are few studies that employ the use of self-report ratings completed by children younger than ten (Saye, 2004). However, one study by Pagano, Cassidy, Little, Murphy, and Jellinek (2000) found that self-report measures from children ages 9-14 added valuable information to a screening procedure. When the child-ratings were added to the study, children with internalizing symptoms were identified as “at-risk” when they had not been previously identified by parents. Kamphaus and Frick (2002) reported that children may more accurately be able to report internalizing problems than externalizing problems, corroborating this finding.

Self-report measures are increasingly perceived as able to provide useful information with adequate validity (Saye, 2004). Children may be able to provide information that is unavailable to parents, teachers, and peers thus making this information very valuable. Though a belief used to exist that children could not comprehend self-report measures (Kamphaus & Frick, 2002), children are now successfully assessing their feelings thoughts and behaviors (Witt et al., 1998). Child paper and pencil self-report provides insight into valuable information about the school climate and academic motivation of students.

**Three Constructs of Interest**

Perceived school social support, often referred to in the literature as school climate, is an environmental variable that measures positive school attitudes. Safety, security, and a positive learning environment are essential variables that contribute to this construct. It is part of the current movement in education to focus on the “whole child” by attending to interpersonal and social/emotional development as well as academics (Bulach, & Malone, 1994; Baker, Dilly, Aupperlee, & Patil, 2003). This focus on the school environment and relationships between students, teachers, and peers is becoming
more popular and the constructs involved are defined many different ways. However, for this study I have chosen to measure perceived notions of school climate specifically targeting school satisfaction, motivational support in the classroom, and academic competence. By considering these constructs from the perspective of the student and not the teacher or parent I hope to make a significant contribution to the literature and propose an area of intervention that may influence academic success above and beyond teacher rated mental health as was done previously by Roeser and colleagues at the adolescent level (2001). I attempt to refine definitions of these constructs in the following sections.

School Satisfaction

School satisfaction, defined by Huebner (1994) as the subjective cognitive appraisal of the perceived quality of school life, is just one marker of positive school adjustment. The construct comes from theoretical work on children’s life satisfaction, and it accounts for individual differences in students’ perceptions of school experiences (Huebner, 1991). Environmental variables likely to affect school satisfaction are: school climate, classroom practices, school organization, peer context, academic ability, gender, race, socioeconomic status, mental health, and family contexts. Climate variables associated with the construct are: perceived quality of teacher student relationships from teacher and student perspectives, and friendly, supportive, harassment free classrooms. School satisfaction is the broadest of the three constructs to be assessed in this study and it certainly may encompass some portion of academic competence and classroom climate. However, preliminary analyses show that it is an independent construct and, therefore, must be considered separately from the other two. Work by Baker and colleagues supports the existence of the three separate constructs. Baker analyzed the self-report
data of 129 at-risk elementary school students and found school satisfaction, academic competence, and classroom climate to be correlated but different.

In the past, school satisfaction has been measured simply by successful achievement outcomes, but surveying students’ attitudes and beliefs may be a more practical way to assess this construct (Baker, et al. 2002). In 1976, Epstein and MacPartland found that students’ subjective appraisals of life did not relate to academic performance, however, others would disagree with this finding. More recently researchers suggest that self-report ratings of school satisfaction can distinguish students on academic, mental health, and behavioral indicators of success. This idea needs to be further explored. Verkuyten and Thujs (2002) used academic variables in the classroom to predict school satisfaction, but did not consider school satisfaction as a predictor itself. They came to the conclusion that school satisfaction was a major aspect of children’s quality of life, thus schools should be caring and supportive. The level of school satisfaction affects psychological well-being, school engagement, absentee rate, drop-out and behavioral problems. Children have a right to feel good about themselves and institutions in which they function (Verkuyten & Thujs, 2002). In light of this fact, we need to continue to study this construct and look at other indicators of school adjustment and success. The field lacks models that account for the role of school satisfaction in promoting academic success (Bulach & Malone, 1994).

Motivational Support in the Classroom

Because schools and classrooms are social environments, motivation to succeed in the classroom is highly influenced by support from peers, parents, and teachers (Knapp, 2001). Atkinson’s model of motivation suggests that we are more motivated to attempt tasks we feel supported in. Becker stresses the importance of peer support in this
equation, indicating that in the past research has leaned to heavily on teachers and parents as socializing agents of motivation and academic performance (Becker, 2002). In the present study, motivation in the classroom focuses primarily on the relationships between students, teachers, and peers. In assessing this construct, factor analysis revealed two separate factors to be considered: peer relationships in the classroom and collaboration in the classroom. The peer relationships factor includes information about teasing in the classroom and existing motivational social support for students. Collaboration includes motivational relationships between the teacher and students as well as student perceived warmth and cooperation in the classroom.

**Peer relationships in the classroom.** Surprisingly enough, empirical research tends to focus on the relationships between teachers and parents with students when academic motivation and educational outcomes are of interest (Eccles, Wigfield, & Schiefele, 1998). For many students the idea that peers would disapprove of or support academic endeavors is a very powerful motivational tool. In general, studies examining the perceptions of peer support have found these to be associated with academic outcomes (Becker, 2002). Becker found that peer support at the middle school level was indeed predictive of academic outcomes for suburban students and urban girls, but not urban boys (2002). Gonzales and colleagues (1996) found that the impact of peer support on academic motivation was moderated by neighborhood risk. It is clear that further research needs to examine particularly the impact of peer support for children raised in poverty (Becker, 2002). It may also be useful to examine peer relationships with elementary aged children to see if these are as valuable in predicting academic success as teacher and parent relationships.

**Collaboration in the classroom.** The perceived support of parents, friends, and teachers is crucial to the academic success of middle school students (Rosenfeld,
In a study by Rosenfeld and colleagues, respondents to self-report measures were 2099 6-12\textsuperscript{th} grade students from 93 separate schools. Student perceptions were assessed with the School Success Profile, a measure designed to look at students’ perceptions of neighborhood, school, friends, family, health, and well-being. Results showed that middle school and high school students tended to be motivated in school by perceived social support, or a more positive classroom climate.

Students with supportive parents, friends, and teachers had better attendance, better study habits, avoided problem behavior, had higher school satisfaction ratings, were more engaged, had a stronger sense of self-efficacy and got better grades. In this study, social support enhanced overall school achievement and academic competency (Gutman & Midgely, 2000). This demonstrates that school aged children are often the best informants regarding their own behavior and feelings, and grades are a valid measure of academic performance for students (Rosenfeld, et al., 2000). Here, high teacher support was most predictive of school outcomes, but this could be influenced by using grades to represent school outcomes. A weakness of this study may be considering grades, given by teachers, instead of relying solely on a more independent measure like test scores.

Another interesting finding from Rosenfeld was that high teacher support was not sufficient for school success. Students in this study needed either parent or friend support in order to be successful academically. This has implications especially for disadvantaged students who may not have support at home. Relationships with teachers and peers may be even more crucial for these children. Students with satisfying friendships are engaged in learning, enjoy school, and tend to do well academically. Equally important is the finding that children model academic behavior after peers, and
those students with studious, academically involved friends are likely to exhibit the same school behaviors (Eccles & Wigfield, 2002). Students who have positive relationships with peers are more likely to feel that they belong in the school community. School belonging, or the extent to which students feel personally accepted, respected, included, and supported at school, may be especially critical to the academic motivation and success of students who may have been raised in poverty, or on values and beliefs different from those taught at school (Goodenow & Grady, 1994; Gutman & Midgely, 2000). The Rosenfeld study among others, has shown that teachers and peers play an important role in supporting older children and adolescents, whether they have support from home or not, but now we must consider these motivational support systems with younger children as well.

In one study with elementary aged children, Burnett (2002) investigated relationships between teacher praise and feedback and student’s perceptions of the classroom environment in 6 rural elementary schools. Seven hundred and forty-seven students participated in the study with a mean age of 9.9 years. Two rating scales were developed for use with the study, The Teacher Feedback Scale (18 items), evaluating teacher feedback and The My Classroom Scale (10 items), evaluating perceptions of the classroom environment. The scales were administered to children in classrooms of 25-30 students, and items were read aloud to those who needed assistance. Findings indicated that negative teacher feedback and effort feedback were both related to students’ relationships with their teachers, and ability feedback was associated with perceptions of the classroom environment. Negative feedback led to negative relationships with teachers, while satisfied students received less negative feedback. Findings suggested
that teachers need to modify their behavior to create a more positive learning environment for all students. Positive classroom environments have been associated with academic achievement, improved schooling for children at risk, positive influences on motivation, positive attitudes, and better interpersonal behaviors.

**Academic Competence**

*Academic competence* is defined as people’s judgments of their capabilities to organize and execute courses of action required to attain academic performances (Bandura, 1986). It is the extent to which children feel competent in their own academic abilities (Eccles & Wigfield, 2002). Studies show that students who felt more academically efficacious had higher grade point averages than their peers. Perceived academic competence is a factor that researchers have found promotes successful adaptation in school (Garmezy, 1992). Confidences in problem solving, in competence, and in self-efficacy are important for adjustment in stressful (school) situations (Gutman & Midgley, 2000). Academic self efficacy may be particularly important for the academic achievement of high risk children. In one study with high risk youth, academic self-efficacy was the most salient predictor of academic performance for both males and females (Spencer, 1993). Academically efficacious students may be better able to take advantage of the benefits of involved parents, helpful teachers, or supportive school environments for academic achievement; because the support may be more useful if students feel they can learn.

In a recent study, Gutman and Midgley found that academic self-efficacy did predict a higher GPA in adolescence (2000). The study included 738 participants interviewed over the course of a school year from fifth to sixth grades. 218 participated
in the study for two years, 42% of the sample was an ethnic minority, and 84% of the
sample received free or reduced lunch, an indicator of low socioeconomic status.

Academic self efficacy was assessed with a self report measure which employed a 5 point
scale response mechanism and contained 5 items on academic competency combined
with some items measuring other constructs. School factors were assessed with 8 items
on perceived teacher support, 5 items on school belonging, and 10 items on family.
These self-report measures were collected during interviews with each participating
family.

Analyses were limited in this study, because researchers only used grade point
average as an outcome variable, and research has shown that poor minority students
receive lower grades (Roeser & Eccles, 1998). According to Simmons and colleagues
(1991), the decline in GPA is more severe for minorities. Other academic outcomes have
not shown these consistent patterns, so test scores may be a less biased indicator of
performance. Grades do have significance in our society because they are the most
important determinant of course selection, grade completion and greater educational
opportunity, but they need to be further explored as an unbiased measure of performance.

In another study carried out by Jacobs, Lanza, Eccles, and Wigfield (2002),
children’s views of general self-competence led to increased achievement motivation and
increased self-esteem. This 10-year longitudinal study began in elementary school and
followed children through completion of high school. Researchers found that motivation
was a mediator of actual achievement in various domains, academic included.
Expectancy-value theory states that children actually perform better when they believe
they have the ability to complete a task (Jacobs et al., 2002).
Interestingly, the researchers also found that children’s self competency beliefs became increasingly more negative as time passed. They expected a downward slide immediately following age 7 and 8, because research has shown that young children can be unrealistically optimistic (Nicholls & Miller, 1984). However, the downward trend did not end in childhood. Through high school, researchers found that self-competency continued to decrease. This increased negativity is why it is so important to examine academic competence from the child’s perspective. Perhaps decreases in competency beliefs and motivation can be realized early, and steps can be taken to increase student self-esteem. The self report of each individual student is crucial in this instance, because the report of a parent or teacher may not access the true feelings of the child, and troubled students may advance through the system unidentified for services. If we look at work in the motivation domain, we can see that perceived academic competence may be one of the best predictors for success in school from elementary through high school. We cannot afford to assess achievement without asking children at a young age about their own motivations and competencies.

Though this study did a good job of using even young student self-report to assess academic competency, a weakness of this work is the lack of diversity in the sample. Ninety-five percent of the children surveyed were of European American descent, and family average income was approximately 50,000 per year, solidly middle class. A study by Kurdek and Sinclair (1999) had a similar problem with their sample. These researchers also assessed academic competency in elementary school. They found that children’s perceptions did indeed predict verbal abilities, but children’s ratings did not coordinate with teacher ratings of students’ competence. This idea that students and
teachers perceive differently supports the notion of asking students (and not only teachers) about student competence. This is an interesting finding, however like Jacobs and colleagues, the sample used by Kurdek and Sinclair was predominantly white middle class. Only 5% of students surveyed were eligible for free or reduced lunch.

It would be of interest to assess the *academic competency* beliefs of children from more ethnically and socioeconomically diverse backgrounds. As mentioned earlier, the achievement gap is largest for those children living in poverty, and most are in the racial minority. It will be important in the present study to assess the perceived academic competencies, as well as other perceptions of student experience, in children from diverse backgrounds because all children do not have the same experiences.

**Teacher Rated Mental Health**

**Student perceptions and mental health**

Student self-report of school experiences in school satisfaction, classroom climate, and academic competence are of particular interest in this research study, since at the elementary school age, there is a lack of research exploring students’ beliefs and the affects of these on school success. As noted previously, school success has been selected as an outcome variable of interest because in our society, it is indicative of lifetime productivity and happiness (Risi et. al., 2003). We will compare student self-report to baseline mental health as predictors of school success.

Mental health has an established connection to school performance (Adelman & Taylor, 2003). While schools are “not in the health business” and education is their primary focus, current trends in research tie mental health status to educational attainment. In 1999 the surgeon general estimated that 6 to 9 million children, many
coming from low-income families, had serious mental health needs that were being overlooked and that this was affecting their performance in school. Healthier children, according to researchers and policy makers, will learn and perform better (Adelman & Taylor, 2003).

**Mental health and academic achievement.** According to the Surgeon General, mental health is the successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to cope with adversity; from early childhood until late life, mental health is the springboard of thinking and communication skills, learning, emotional growth, resilience, and self esteem (2001). Mental health has been linked to academic achievement in schools for over 100 years. From the progressive era of education reforms in the 1900s to today, mental health has been a concern of educators. School success is highly related to mental health and school failure can often be linked to untreated mental illness. Now more than ever, we strive to address the mental health needs of children in schools focusing specifically on externalizing difficulties, internalizing difficulties, and adaptive functioning (Flaherty & Osher, 2003). Many researchers have explored the connection between mental health and achievement, and many have found that mental health is indeed a predictor of success in school (McEvoy & Welker, 2000; Normandeau & Guay, 1998; Roeser et al., 2000; Fleming, Barner, Hudson, & Rosignon-Carmouche, 2000; Fergusson & Horwood, 1995; Rapport, Denney, Chung & Hustace, 2001; Finn, Pannozzo, & Voelkl, 1995).

**Externalizing and internalizing behavior.** External behavior problems are characterized by difficulty with attention, aggression, conduct, and under-socialization, while internalizing problems include withdrawal, anxiety, fearfulness, and depression.
These dimensions reflect a distinction between fearful over-controlled behavior and aggressive under-controlled behavior (Rapport et al., 2001). The concepts of externalizing and internalizing behavior were first introduced in 1972 by Herb Quay. Shortly after, the terms were adopted by Gray in his theoretical model of behavior activation and behavior inhibition. This model, often referred to as BIS/BAS, described individuals who were high on behavior activation as acting outwardly toward the environment. According to Gray, these individuals are particularly sensitive to cues of reward in the environment. Individuals high on behavior inhibition are more inwardly focused, and sensitive to cues of punishment. These individuals are more likely to withdraw (Quay, Glavin, & Annesley, 1972).

For the purposes of this study, externalizing and internalizing behavior refer to composite constructs with prior empirical support posed by Reynolds and Kamphaus (1992) with the development of their measure, the Behavior Assessment System for Children (BASC). Externalizing problems are particularly salient in the school context, because they can result in inattention and aggression (Hinshaw, 1992). Internalizing problems tend to result in distraction from learning, withdrawal, and lack of engagement in school tasks. These problems are typically more difficult to notice in children. The developmental outcomes of these behavior problems have been of particular interest to researchers because of the stability of these behavior patterns (Rapport et al., 2001).

**Externalizing Behavior Problems.** Externalizing behavior problems as assessed by the BASC include: aggression, hyperactivity and conduct problems. When teachers rate children as having significant externalizing behavior problems, mental health is called into question. High levels of aggression, hyperactivity, and conduct problems are associated with mental illness in the form of Attention Deficit-Hyperactivity Disorder (ADHD), Conduct Disorder (CD), and Oppositional Defiant Disorder (ODD). The
presence of externalizing problems is often associated with school failure (Flanagan, Bierman, & Kam, 2003; Mash & Barkley, 1996; McEvoy & Welker, 2000; Fleming, Barner, Hudson, & Rosignon-Carmouche, 2000; Fergusson & Horwood, 1995).

Longitudinal studies strongly suggest that antisocial behavior and academic achievement are causally linked over time (Masten, 2003). Through meta-analysis Manguin and Loeber found that academic performance and delinquency are highly related independent of socioeconomic status. Indeed, a strong correlation has been identified between antisocial behavior and academic failure (McEvoy & Welker, 2000). Among other things, antisocial children are at acute risk for school failure. Flanagan and colleagues corroborated this finding with their sample of 755 first grade children. They found that first grade teacher ratings of externalizing behavior problems contributed to the prediction of school outcomes two years later (2003).

A study by Fergusson and Horwood (1995) used structural equation modeling to test the correlations between school achievement and delinquency focusing on early childhood externalizing symptoms. The subjects were 1265 New Zealand children from the ages of 4 to 15 years. Attention deficit and conduct problems were assessed at age 8 from mother and teacher reports on the Conners and Rutter scales. These scales examined tendencies towards conduct problems as assessed by parents and teachers. The study found that early externalizing behaviors were correlated with later academic achievement in New Zealand adolescents. Specifically attention deficit problems predicted later school achievement.

Hinshaw (1992) also acknowledged the relationship between externalizing behaviors and academic achievement. He found that the risk for failure can occur quite early in development, even before formal schooling begins. By the teenage years, delinquency and antisocial behavior are clearly linked with underachievement. Hinshaw
proposed that certainly third variables are present in the equation. Socioeconomic status, and language delays, to name a couple, must play a part in this relationship. Despite other influences however, researchers cite a “snowball” effect over the course of development as antisocial behavior increases and achievement declines. It will be important to take a closer look at these patterns and identify those at risk early in the course of development (Moffitt, 1993; Hinshaw, 1992; Hinshaw & Anderson, 1996).

Flanagan and colleagues have considered the efficacy of early screening strategies to identify children who are at-risk for externalizing problems at a young age. This appears to be the optimal method for identifying at-risk children more accurately and in a timely fashion; however different screening strategies still need to be compared (2003). This research is relatively new, and the advantages and disadvantages of highly specific versus a more general screening need to be explored. Screening may be most effective if it can adequately address the issue of comorbidities, because children with risk at multiple levels tend to have a less promising prognosis (Flanagan et al., 2003).

**Internalizing Behavior Problems.** Internalizing behavior problems as assessed by the BASC include: anxiety, depression, and somatization. These problems are more difficult to recognize than externalizing difficulties, and studies show that teachers are more likely to overlook internalizing and inattentive students in spite of the serious effects of children’s nonparticipation in class (Finn, Pannozzo, & Voelkl, 1995). However, when teachers rate children as having significant internalizing behavior problems, mental health becomes an issue. Significant scores on any of these constructs tend to indicate the presence of an anxiety or depressive disorder, which is often linked to school problems (Roeser et al., 2000; Rapport et al., 2001; Finn et al., 1995).

In 2000, Roeser, Eccles, and Sameroff looked at the relationships between academic and social emotional development in adolescents, with the hypothesis that
emotional distress, an internalizing symptom, would lead to later behavior and academic problems. Their perspective is anchored in cognitive theory. The model introduced involved using motivation, beliefs, and values, and social emotional functioning to predict achievement and behavior. Roeser and colleagues posited that negative cognitive appraisals in school can generate negative emotions such as anger and shame and lead to feelings of unworthiness and general dislike of the school setting. Increasingly the child feels incompetent, disinterested, and inferior academically. Similarly, a child with these negative attributions may fail to cope effectively with academic failure (possibly assigning blame to others) and may develop emotional and behavior problems as a result of academic difficulties. The researchers found a reciprocal relationship between the variables (emotional distress, academic competence, grades) at the middle school level (Roeser, et al., 2000).

Normandeau and Guay (1998) also found internalizing behavior problems to be indicative of later academic difficulties. Moderate to strong correlations between internalizing behavior problems and classroom performance have been found in numerous studies (Rapport, Denney, Chung & Hustace, 2001). The researchers tested this hypothesis with a sample consisting of 325 children, ages 7-15 years, living in Hawaii. Teachers completed the Child Behavior Checklist (CBCL) as a measure of anxiety, depression, and withdrawal in their students. The Academic Performance Rating Scale was also completed by teachers to assess children’s classroom performance. Anxiety, depression, and withdrawal contributed to the prediction of classroom performance and cognitive functioning over the effects of intelligence (Rapport et. al., 2001). A drawback to this work was the use of teacher ratings as predictors and outcome variables. This phenomenon of method variance with teacher ratings is a common occurrence in studies of this area of research.
Finn and colleagues studied teacher report of mental health and subsequent achievement outcomes as measured by a standardized test, the Comprehensive Tests of Basic Skills (1995). While standardized tests receive criticism, this is an outcome measure independent of the teacher rated Student Participation Questionnaire, which teachers completed for 1,013 fourth grade students. Of the sample studied, 15% was of minority status and socioeconomic variables were not reported. Students rated as inattentive and internalizing scored significantly below their classmates on a measure of standardized achievement. This supports the finding that internalizing behavior is a predictor of academic achievement independent of teacher bias. Internalizing behavior problems may even be more detrimental to learning than externalizing problems (Finn et al, 1995). This study supports the use of internalizing behavior ratings to predict academic outcomes, but the unrepresentative sample means these results cannot generalize to a low-income urban population.

Fantuzzo and colleagues, however, did study early internalizing symptomology in an at-risk, urban population (2003). Participants were 831 children enrolled in an urban Head Start program in the Northeast. The chosen school district served children from impoverished areas of Philadelphia. These children had a mean age of 4.4 years and the majority of subjects were African American. Annual income for 94% of the families participating was below $12,000. As a measure of social-emotional adjustment, preschool teachers completed the Adjustment Scales for Preschool Intervention (ASPI), a multidimensional instrument based on teacher observations of adaptive and maladaptive behavior in the preschool classroom (Lutz, Rafaeli, & Howard, 2002). They also completed the Child Observation Record (COR), an assessment based on teacher observation of child behaviors. Withdrawal, low energy, and lack of social competency predicted difficulty in all classroom learning areas at the end of the school year. Children
appeared to be disengaged from classroom learning experiences when they exhibited withdrawn behavior and general internalizing symptomology or lacked adaptive competencies. While this study was focused on a very young population, it provided valuable results, proving the value of assessing internalizing difficulties, as these can be a strong predictor of school outcomes. Another point introduced by Fantuzzo is the importance of adaptive competencies. The lack of adaptive behavior in preschool was a strong predictor for underachievement. By examining children who do possess adaptive competencies we can find protective factors for outcome variables such as school success.

**Adaptive Functioning.** By considering adaptive functioning, researchers can look at the positive side of child development. While the internalizing and externalizing scales of the BASC seek to uncover problems in development, the adaptive functioning scale seeks out solutions. We can benefit from studying resilient youth, who place themselves in healthy environments, create their own opportunities to succeed, and surround themselves with positive influences (Scarr & McCartney, 1983). By understanding positive contributors to development, we can better prevent and treat problems in children who may be at risk for negative outcomes (Fantuzzo, et al. 2003). The BASC assesses adaptive functioning in the following domains: adaptability, leadership, social skills, and study skills. It is thought that competencies in these areas may serve as protective factors for later developmental outcomes including school success (Reynolds & Kamphaus, 1992).

From an adaptive functioning standpoint, research should explore the factors that protect children from academic difficulties and from developing negative attribution and coping styles (Noam & Hermann, 2002). If we are indeed able to predict these developmental pathways, early intervention and prevention programs could alter the
course of development and put children back on a normal developmental trajectory (Waddington, 1942).

Two studies presented by Masten (2003), show that adaptive competencies predict school success through test scores, conscientiousness, and self-esteem. This method of studying resilience involves comparing two groups taken from a high-risk sample with adaptive and maladaptive outcomes. In the Kauai study (Werner & Smith, 1992), a high-risk group was identified from a cohort. This group had perinatal problems, low maternal education, and high poverty levels. Next, a resilient subgroup was identified based on good competence and limited behavior problems. Attributes of these children and their lives were compared with those in the high-risk group. The researchers found that resilient individuals had better cognitive test scores, more positive self-perceptions, and greater conscientiousness than their peers (Werner & Smith, 1992; Masten, 2003). Adaptive behaviors did predict better life success.

In a second investigation, researchers identified "stress-affected" and "stress-resilient" groups based on life stressors like family violence, death, and poverty. The subjects were children living in dangerous neighborhoods of Washington, DC, classified as adaptive successes or not by the Child Behavior Checklist and teacher ratings of academic progress as average or better. Higher adaptive success predicted higher IQ scores in childhood, as well as less association with deviant peers and less novelty seeking (Richters & Martinez, 1993; Masten, 2003). This is an important area of research, and the findings suggest that human adaptational systems are at work and are predictive of successful outcomes (Masten, 2003).

Conclusions

There is an emerging consensus that student perceptions of their satisfaction related to schooling are important areas of scientific inquiry, because these perceptions
are potentially related to motivation and academic achievement in school. Student perceptions may offer a fresh perspective on predicting academic outcomes without the problems of using only baseline mental health as a predictor. Because of issues such as comorbidities and subsyndromal levels of impairment, baseline mental health may be difficult to assess and may be an overly complex predictor of academic achievement. Also, teacher ratings of student mental health have been criticized for accuracy and for issues of method variance (Bacete & Badenes, 2003). In addition, research has recently uncovered that self-report assessment methods for younger children have greater evidence of reliability and validity (Reynolds & Kamphaus, 1992). It is no longer necessary to rely solely on adolescent report when assessing student perceptions of the school experience. The consensus leads us to the need for the present investigation.

Though comprehensive, cost, and time efficient measures of child mental health status are now available (Hart & Lahey, 1999), mental health diagnosis and classification carries with it a number of problems. First, constructs offered by researchers in the mental health field are ill-defined. Hinshaw and Anderson (1996) stress the importance of considering comorbidities and other factors associated with school failure. Certainly, externalizing behavior problems, internalizing behavior problems, and adaptive functioning are part of the equation, but they do not account for the entire developmental trajectory. Research suggests that developmental outcomes of children with more than one behavior problem will be more negative than for those not suffering from comorbidity (Flanagan, et al., 2003). This indicates the complexity of predicting school success from baseline mental health.

When rating child behavior, educators tend to develop categorical definitions and expectations for children such as ADHD or conduct disordered, and these labels stay with children and affect the expectations of future teachers (Bacete & Badenes 2003). As
Flanagan and her colleagues have pointed out, screening for behavior problems is the future for identifying children who are at risk for later difficulties (2003). However, this relatively new process has not yet been perfected, and currently we are not able to identify at-risk children as early as we would like. Our current methods of diagnosis and classification are expensive, time intensive, and many children who need services do not receive them (Weist, Evans & Lever, 2003). Our current model of service delivery relies on intervention and not prevention (Sheridan & Gutkin, 2001). The dimensional assessment of mental health through the BASC is an established way to predict school success, but perhaps by considering children’s perceptions of their own school experiences, we might serve more students at a younger age, and aid in the prevention of school failure before children progress down that developmental trajectory.

Another issue to consider involves the method of diagnosis. We often must rely on teacher report to recognize behavior problems. Studies show (Reynolds & Kamphaus, 1992) that teachers are able to recognize and adequately refer students without bias. However, there are always considerations when teachers are rating behavior problems and assigning grades. This level of method variance is an important issue to consider (Bacete & Badenes 2003) and past literature suggests that we may have more success using multi-informant screening to recognize at risk youth (Bierman & Wargo, 1995). This provides a strong argument for using student self-report in place of or in combination with mental health status, to predict achievement outcomes. It may be difficult for students to assess their own behavior problems and social-emotional functioning (Reynolds, 1993), but students can report perceptions about the school experience (Pianta, Stohlman, & Hamre, 2002). If mental health is only part of the developmental trajectory leading to school failure (Hinshaw & Anderson, 1996), then we should be able to predict school outcomes from student perceptions as well.
Next, much of the prior research focuses on adolescents when in fact we know that children’s attitudes begin to form earlier in the schooling experience. Self-report assessment methods for younger children now have greater evidence of reliability and validity (Reynolds & Kamphaus, 1992). Children may be able to provide information that is unavailable to parents, teachers, and peers thus making this information very valuable. A belief used to exist that children could not comprehend self-report measures (Kamphaus & Frick, 2002), but children are now being relied upon to assess their feelings thoughts and behaviors (Witt, Cavell, Heffer, Carey, & Martens, 1988). Child self-report can provide insight into valuable information about the school climate and academic motivation of students.

While past empirical research on school climate has been purely theoretical and has not been supported with concrete data (Baker, Terry, Bridger, & Winsor, 1996), the current study attempts to lend statistical support to theory. Researchers claim social factors do affect academic success (Baker, 1998) and more empirical research should be conducted to bring these constructs to the same level as mental health status.

Mental health status, an established predictor linked closely to school success, is sometimes difficult and costly to measure. Data are obtained later in the school career than we would like, and often leave out students who fall in the category of “at-risk” (Weist et al., 2003). It would be interesting to find that school success could also be measured through self-perceptions of student experiences. At the very least, student self-report could be used as an alternate measure, a second predictor of success in school. At most, with this method, teachers, parents, and communities may have more success instilling motivation, hope, and an appreciation for academic achievement, and students may live more successful, productive lives.
These gaps in the scientific literature are addressed to some extent in the following investigation.

**Research Hypotheses**

It was hypothesized that elementary school students’ ratings of school experience would be as successful, if not a better predictor of school achievement outcomes, than baseline mental health. In other words, I predicted that educators could obtain a reliable estimate of whether or not a student will succeed in school, simply by asking the child about his or her current school experiences.

Through Factor Analysis, I isolated four school climate factors from three constructs tested as predictors for achievement outcomes. These included school satisfaction, academic competence, and the motivational variables: peer relationships in the classroom, and collaboration in the classroom. The constructs assessed were school satisfaction, academic competence, and the later two factors can be subsumed under the construct motivational support in the classroom. Through Multiple Regression, each factor was considered independently, and collectively as a predictor for academic achievement. I hypothesized, that taken together, these factors would be a stronger predictor of academic outcomes than any one considered individually.

A final hypothesis was that teacher rated mental health status through externalizing, internalizing, and adaptive functioning scales would be a better predictor of school grades than of standardized test scores. Because teachers provide grades, I predicted that these would reflect teachers’ feelings and ratings of mental health status, while student self-report would be a better predictor of standardized test scores than
teacher report. The present study sought to establish the validity of elementary school student self-report of experiences as a qualified predictor of academic achievement.
Chapter 2

Methods

Participants

Participants were comprised of approximately 252 children in grades 3-5 from three elementary schools in a small Southeastern city. The participating school district has a 57% minority population, and 95% percent of the children are on free or reduced priced lunch, indicating a high poverty level of student’s families. The gender distribution of the sample was approximately representative of the population, 43% male and 57% female. However, African American students were overrepresented in comparison to the population (African American = 57% Caucasian = 35% Hispanic = 6% Multiracial = 1% Asian-Pacific Islander = 1%). Students participating were gathered from special education as well as regular education classes. Students in self-contained classes were not included in this study. Data for this study were collected as a part of Project ACT Early, a seven year longitudinal study funded by the United States Department of Education (R306F60158, R305T990330).

The ACT Early project, started in 1997, was initially funded by a three-year grant but additional funding was obtained to continue the project for four more years. Project ACT Early’s objectives were to provide teacher support and consultation and to focus on ecological determinants of child behavior problems in schools. Specifically the aims were to document student behavior and environmental contributors to behavioral risk at school, and to use acquired information to help teachers acquire competencies in serving these students. These goals are similar to the goal of the current investigation, to determine the most salient predictors (perceived school satisfaction, perceived
motivational support, perceived academic competence, teacher reported mental health) of academic achievement measured by standardized test and grade point average, in socioeconomically disadvantaged children (grades 3-5).

Cross-sectional data collected in the spring of year 6 comprised the sample for the current study. Although longitudinal data were collected, for the purpose of this study we chose to look at each individual student in a single year of school. Each grade level represented approximately 33% of the sample. Students ranged from 8 years to 12 years (mean age = 10 years).

**Instruments**

**Behavior ratings.** Children’s behavior problems and adaptive competencies were assessed with the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992). The BASC consists of a series of multidimensional behavior rating scales designed for three different raters: parent, teacher, and self, and for three different age groups: preschool (ages 4-5), children (ages 6-11), and adolescents (ages 12-18). The BASC-Teacher rating scales-Child (TRS-C), designed for students ages 6-11, was used in this study.

The BASC-TRS-C is a 148-item, nationally standardized instrument that measures both problem and adaptive behaviors in the school setting. It yields ten problem behavior scales and four adaptive behavior scales (Reynolds & Kamphaus, 1992). Clinical child scales are comprised of externalizing behavior problems (i.e., Hyperactivity, Aggression, Conduct Problems), internalizing behavior problems (i.e., Anxiety, Depression, Somatization), and other clinical scales (i.e., Withdrawal, Attention Problems, Learning Problems, and Atypicality). The adaptive skills composite score is
comprised of: Adaptability, Social Skills, Leadership, and Study Skills. In the proposed study, the clinical scales for externalizing and internalizing behavior problems as well as the adaptive skills composite were utilized as measures of child mental health. As stated in the introduction, teachers have been found to provide useful information about child behavior problems and mental health (Kamphaus & Frick, 1996).

The BASC manual provides reliability and validity psychometric information and descriptions of the TRS-C scales. Evidence of internal consistency (median internal consistency coefficient of .82), test-retest, and inter-rater reliability is provided. The TRS also shows high correlations with other teacher rating scales that measure similar constructs (Reynolds & Kamphaus, 1992). The 148 behavioral items are rated on a 4-point Likert scale (1=never, 2=sometimes, 3=often, 4=almost always).

**Student-Perceived School Satisfaction, Academic Competence, Motivational Support in the Classroom.** Contextual measures of school satisfaction, academic competence, and motivational support in the classroom were used to assess the child’s overall feeling of school satisfaction, perceived academic ability, and perceived teacher and peer motivational relationships in the school setting. These variables contribute to the way a school functions to prepare children to be productive members of society (Baker, Terry, Bridger & Winsor, 1994; Carey, 1998). School satisfaction is the broadest construct of the three, and it can be defined as the subjective cognitive appraisal of school life, an indicator of positive subjective well-being (Huebner 1994). Huebner writes that it is subjective, so it accounts for individual differences in student’s perceptions of school climate. This definition comes from theoretical work on children’s life satisfaction, an aspect of subjective well-being (Baker, 1998, Heubner, 1991). Academic competence is
defined as student’s judgments of their capabilities to organize and execute courses of action required to attain designated types of academic performances (Gutman & Midgely, 2000; Bandura, 1986), or simply stated perceived ability in school/academic related tasks. 

Motivational support in the classroom, our third construct, refers to the idea that students are motivated academically and socially by encounters with peers and teachers and these interactions shape one’s identity within a classroom (Becker, 2002).

Previous work by Baker (1998), using these instruments revealed a moderate correlation ($r = .43$, $n = 129$) between school satisfaction and motivational support in the classroom (termed classroom climate by Baker) suggesting these are independent but related measures. Academic competence was significantly related only to school satisfaction ($r = -.17$, $n = 129$) confirming its independence. With the current data, similar results were obtained. Analysis revealed a moderate correlation ($r = .48$, $n = 259$) between school satisfaction and motivation, and a lower but significant correlation between school satisfaction and academic competence ($r = .28$, $n = 259$). Academic competence and motivational support in the classroom were not significantly correlated.

While it follows that a child’s subjective well-being would be related to the social environment and encounters in the classroom, this data confirms that these are not the same, and a child may have a high sense of well-being despite a lower view of the classroom environment or vice versa. For this reason, we will continue to separate the constructs school satisfaction and motivational support in the classroom.

Factor analysis was performed to confirm the existence of the three constructs. Varimax rotation identified four factors of interest, two of which combine to form the construct, motivational support in the classroom. Each factor was considered
individually and items with the highest factor loadings were selected to assess the construct. The number of items in each scale was determined to obtain the highest reliability coefficient possible.

*School satisfaction* was assessed in the current study with a subscale of the Multidimensional Life Satisfaction Scale for Children, (MLSSC; Huebner, 1994). This instrument proposes to measure the subjective well-being of children. Six items comprised this subscale of school satisfaction. Items were selected with a factor loading above .6. Sample items on this scale include: “I look forward to going to school; I like being at school; I wish that I did not have to go to school.” Response options for students in grades 3-5 were never, sometimes, often, or almost always. Reliability analysis with Cronbach alpha suggested that the six items had adequate internal consistency for grades 3-5 (N = 222, alpha = .79).

*Academic competence* was assessed using an adaptation of the Scholastic Competence subscale of the Harter Self-Perception Profile for Children (SPPC; Harter, 1985). In Harter’s (1982) review of the psychometric properties she noted adequate internal consistency, test-retest reliability, and convergent validity for the measure. Four items comprised this scale, including: “I feel I am good at my work.” Initially six items were included, but varimax rotation identified four items most related to the construct. Addition of the remaining two items decreased the reliability coefficient, so the scale was reduced to four items with factor loadings above .6. Student response options were the same as above. Within each age range, a sum score resulted as the combination item total of the four presented items. Reliability analysis with Cronbach alpha suggested that the
four items composing the Harter had adequate internal consistency for grades 3-5 (N = 222, alpha = .772) possibly due to the limited number of items.

Finally, the Vessels Classroom Climate Scale (Vessels, 1998) was adopted to assess motivational support in the classroom in a young school-aged population. Students were asked to answer questions about the teacher’s and other peer’s behavior and support. Two factors were identified through factor analysis as contributing to this construct, peer relationships in the classroom and collaboration in the classroom. The following sample questions contributed to these scales; “Our teacher is always joking with us and having fun with us; When someone says or does something dumb, everybody laughs.” The peer scale contained 10 items, each with factor loadings above .4, maximizing the reliability of the scale, and the collaboration scale contained 9 items, also each with factor loadings above .4, administered to grades 3-5. The sum score on each scale was calculated from the item totals for each student. The response options for students were the same as above. Reliability analysis with Cronbach alpha suggested that items comprising these scales had adequate internal consistency for grades 3-5 [N = 222, alpha =.84(peers) .75(collaboration)] (See tables 1-3 for items and factor loadings).

Procedures

An institutional review board (IRB) proposal to work with human subjects was submitted and accepted prior to the start of this project. As part of the ACT Early project, at the beginning of each school year, parents or guardians were given the opportunity to sign consent forms allowing their children to participate in the project. A Spanish language consent form was distributed as needed. In the fall and spring of the project, teachers completed questionnaires and behavioral ratings scales. The Behavior
Assessment System for Children (BASC) Teacher rating scale- Child (TRS-C) was completed for each child in a teacher’s classroom with consent (Reynolds & Kamphaus, 1992). The BASC-TRS is an instrument used widely in the school district for the assessment of emotional and behavior problems in children. No special instruction for teachers was necessary. Teachers received a stipend for the completion of BASC-TRS forms.

In addition, graduate assistants administered a questionnaire twice yearly to all children with a signed parental consent and who assented to participate. This child questionnaire was constructed to obtain information on school satisfaction, academic competence, and classroom climate as well as on perceived academic and personal support as reported by children. For the purpose of this study, students responded to questions about peer and teacher relationships in the classroom (motivational support), their own feelings about their school (school satisfaction), and their perceptions of their own academic abilities (academic competence). Items were taken from the Vessels Classroom Climate Scale, Multidimensional Life Satisfaction Scale for Children, Classroom Life Inventory, and the academic competence scale of the Harter Self-Perception Profile Scale. Students in grades 3-5 completed a 75 item questionnaire, while younger students completed a separate 60 item inventory. In the current study, data collected in grades 3-5 was used. While there is a fair amount of research on child self-report, few studies have included self report completed by children younger than 10 years of age (Saye, 2004).

In a study by Chambers and Johnston (2002), however, researchers examined responses from children to Likert scale items (similar to those used in the current study).
Results showed that younger children did tend to respond in an extreme manner compared to older children, when rating their own feelings. The study divided children into three age groups: 5-6 years, 7-9 years, 10-12 years. The youngest group was the only one to have significantly extreme scores, leading researchers to conclude that 7-12 year-olds are more accurate self-reporters than their younger peers. Bondy, Sheslow, and Garcia (1985) also found that children younger than 10 can reliably self-report. They found that mother and child self-report was highly correlated when child raters were between grades 2 and 8. Qualitative observations made by researchers administering the self-report questionnaire support these findings. Students in grades K-1 tended to be off-task and generally inattentive when asked to complete the survey. Second graders, usually 7 and 8-year-olds, performed better, but somewhat inconsistently, while older students were attentive and involved in completing the measure. For these reasons, the current study will utilize data collected from 8-12 year-olds (grades 3-5).

Finally, at the end of the school year, demographic information (age, gender, ethnicity, classroom grades, standardized test scores etc.) was gathered from cumulative files held by each school. In the current study, student grades and standardized test scores were of particular interest. GPA and standardized test scores of each child were obtained annually from the cumulative files held by the school. GPA was calculated from fourth quarter grades in reading and math submitted by the teacher using a 4.0 scale (4.0 = A+, 0.0 = F). Cumulative standardized test scores summing reading and math on the SAT 9 were used in the current study as outcome variables of interest, free from teacher bias. Calculated GPA was also used as an outcome variable of interest representative of school achievement, however, this variable must be studied with
caution. Since teacher ratings of mental health were utilized, it was important in the current study to have an outcome variable free from teacher influence.

**Statistical Design**

Correlational and regression procedures were used to analyze the data in this study. Specifically, Pearson Product Moment correlations between student-rated school satisfaction, academic competence, and classroom climate were examined. In addition, correlations were computed between standardized achievement test scores (SAT-9) and teacher assigned grade point average. Special attention was given to any evidence of multicollinearity (i.e., significant overlap) between variables.

**Sample and effect size considerations.** According to Green (1991) the following are estimates of necessary sample size assuming an alpha of .05 and power of .80: for a medium effect, three predictors (73), six predictors (97), and nine predictors (115). With a sample size of 110 participants, the present data set demonstrates adequate statistical power. A large sample size can increase the probability that trivial differences due to chance are labeled statistically significant (Kazdin, 1998). In the present study, to minimize the probability of type 1 errors, a conservative level of significance was set at .01 for rejecting the null hypothesis. Statistical significance does not always indicate practical significance, so it was important to present the effect sizes for the data. The increases in proportion of variance ($R^2$) explained by the variables were also evaluated. In the behavioral sciences it is generally accepted that an $R^2$ statistic of .02 reflects a small effect, .13 reflects a medium effect, and .26 reflects a large effect (Cohen, 1988).

**Regression analyses.** Theoretical and prior empirical work supported the inclusion of the selected variables and dictated their order of entry. The construct with the
strongest theoretical support determined by the literature was entered first, followed by the next most supported construct. Hierarchical regression analyses were performed to assess the extent to which student ratings of their own school satisfaction, academic competence, and motivation in the classroom contributed uniquely to the prediction of academic outcomes (standardized test scores, GPA).

The following independent variables were entered (student self report model) in this order to see which was the best predictor of each outcome measure:

- student self report of academic competence
- student self report of motivational support in the classroom
- student self report of school satisfaction

Next the student self report model was compared to the teacher rated behavior model (including the BASC Behavior Symptoms Index composite score) as a predictor of GPA and standardized test scores. Finally the combined model was entered with BASC score first, to see if the self report variables added to the prediction of academic outcomes above and beyond baseline mental health. The data assumptions of normality, independence, homoscedasticity, and linearity that are necessary for interpretation of multiple regression analyses were reviewed to protect from drawing inaccurate conclusions. Scatterplots were also examined for extreme data points.
Chapter 3

Summary Table of Analyses

TABLE 1 Multiple Regression Analyses Examining the Effect of Student Self-Report Measures and Teacher Behavior Ratings on Academic Outcomes

**Equation 1a. Test of Student Self-Report Ratings on Test Scores**
Step 1: Academic Competence
Step 2: Motivation in the Classroom
   Relationships with Peers
   Classroom Collaboration
Step 3: School Satisfaction
Predictor set 1: SAT 9 Total Battery Score

**Equation 1b. Test of Student Self-Report Ratings on Grade Point Average**
Step 1: Academic Competence
Step 2: Motivation in the Classroom
   Relationships with Peers
   Classroom Collaboration
Step 3: School Satisfaction
Predictor set 2: GPA

**Equation 2a. Test of Teacher Behavior Ratings on Test Scores**
Step 1: Teacher Rated Behavior (BASC Behavioral Symptoms Index)
Predictor set 1: SAT 9 Total Battery Score

**Equation 2b. Test of Teacher Behavior Ratings on Grade Point Average**
Step 1: Teacher Rated Behavior (BASC Behavioral Symptoms Index)
Predictor set 2: GPA

**Equation 3a. Test of Combined Model on Test Scores**
Step 1: Teacher Rated Behavior (BASC Behavioral Symptoms Index)
Step 2: Academic Competence
Step 3: Motivation in the Classroom
   Relationships with Peers
   Classroom Collaboration
Step 4: School Satisfaction
Predictor set 1: SAT 9 Total Battery Score

**Equation 3b. Test of Combined Model on Grade Point Average**
Step 1: Teacher Rated Behavior (BASC Behavioral Symptoms Index)
Step 2: Academic Competence
Step 3: Motivation in the Classroom
   Relationships with Peers
   Classroom Collaboration
Step 4: School Satisfaction
Predictor set 2: GPA
Chapter 4

Results

Correlations and descriptive data for all variables are given in Table 2. A conservative alpha level of .01 was used because of the relatively large sample size and the number of tests conducted. Significant associations were found between most academic achievement variables, teacher behavior ratings and student self-report variables. Correlations between school satisfaction and motivation in the classroom

and academic competence

were moderate (motivation in the classroom \( r [252] = .46 \ p < .01 \) and academic competence \( r [252] = .35 \ p < .01 \)), while the correlation between these two variables was smaller but significant, \( r [252] = .19 \ p < .01 \). As expected the self-report variables were intercorrelated, suggesting that a relationship does exist between these three variables. However, the correlations were not strong enough to suggest multicollinearity. Interestingly, the teacher-rated behavior score, a second type of measure used to predict academic outcomes, was significantly correlated only with academic competence, \( r [169] = -.23 \ p < .01 \). A negative correlation was expected because low behavior rating scores indicate the absence of problem behavior, and high academic competence scores indicate a greater level of competence in one’s abilities.

This measure was not significantly correlated at \( p < .01 \), with school satisfaction or motivation in the classroom. If the \( p \) value criterion for significance was changed to \( p < .05 \), the teacher rating variable would show a significant modest correlation with the self-report measure of motivation in the classroom. Finally a high correlation existed between the two dependent variables, standardized test scores and grades, \( (r [101] = .71 \ p < .01) \), suggesting that these two academic variables are quite similar.
Differences in the dependent measures related to each of the independent variables were also assessed using correlations. Pearson Product Moment correlations revealed correlations between standardized test scores and self-reported *academic competence* as well as teacher-rated behavior scores (*academic competence* \( r[101] = .38 \) \( p < .01 \) and BASC score \( r[57] = -.44 \) \( p < .01 \)). Again, a negative correlation was expected between behavior and test scores because lower behavior ratings indicated fewer problems. The *motivation in the classroom* and *school satisfaction* variables were not significantly correlated with standardized test scores. Looking at the relationship between independent variables and school grades, grades were significantly correlated with *motivation in the classroom*, *academic competence*, and behavior ratings (*motivation in the classroom* \( r[252] = .20 \) \( p < .01 \), *academic competence* \( r[252] = .18 \) \( p < .01 \) and BASC score \( r[169] = -.39 \) \( p < .01 \)), but not correlated with *school satisfaction*.

**Model Assumptions**

There are particular assumptions that are made when interpreting the results of a regression model, and in an effort to protect against inaccurate probability statements, each of these assumptions were tested. First, intercorrelations between variables were examined to see if variables were so highly correlated as to produce problems with multicollinearity. Also, the Variation Inflation Factor (VIF) was used to detect problems of collinearity. The following equation was used, \(\text{VIF} = \frac{1}{1-R^2} \geq 10\) indicates collinearity. There was no evidence of multicollinearity. Second, scatterplots were inspected to determine if the assumption of linearity was reasonable. Because the data appeared to fit a linear path, curvilinearity was ruled out. Scatterplots were also examined closely for outliers. For teacher reported behavior, several data points were
discovered that had unusually high scores on the BASC. All three of these data points were included however, because they were within the range of possible scores, i.e. t scores from 30 to 120. Third, independence of subjects was assumed because of the method of data collection and the type of statistical design.

Each of the variables used for this study were examined for evidence of skewness and kurtosis. Skewness and kurtosis statistics with absolute values > 2 indicate a problem with the data set. The variables used for this study did not have indications of skewness or kurtosis in the distribution of values. The standard deviations of variables appeared reasonable, for example, with the teacher rated BASC score variable, this was extremely close to ten, indicating the expected normal variance.

**Multiple Regression Analyses**

**Student self-report Multiple Regression analyses.** A series of multiple regression analyses were conducted to examine the association of students’ perceived motivational support, academic competence, and school satisfaction on their own academic outcomes. Two multiple regression analyses were tested to determine 1) which student self-report variables would explain a significant and meaningful proportion of variance in standardized test scores and 2) which student self-report variables would explain a significant and meaningful proportion of variance in grade point average. An examination of the unstandardized regression coefficients (B), and the t value for each variable provided information concerning the contribution to the prediction of academic outcomes. Table 3 provides results for the regression equations.

For the first regression equation, student-reported *academic competence*, *motivation in the classroom*, and *school satisfaction* were entered into the model and
accounted for a significant and large amount of variance (adjusted $R^2 = 28\%$) in the prediction of standardized test scores ($F[4,100] = 10.46, p < .01$). The $t$ score for each variable was significant at $p < .01$, indicating that each variable explained a significant proportion of the variance. When examined alone as individual predictors of standardized test scores however, only academic competence explained a significant proportion of the variance (adjusted $R^2 = 14\%$) ($F[1,100] = 16.64, p < .01$). This indicates that of the three, Academic Competence may be the most salient predictor variable for standardized test scores.

In the second regression equation, student-reported academic competence, motivation in the classroom, and school satisfaction were entered into the model and accounted for a small but significant amount of variance (adjusted $R^2 = 6.2\%$) in the prediction of grade point average ($F[4,251] = 5.13, p < .01$). The $t$ scores for academic competence and motivation in the classroom were significant at $p < .01$, indicating that these variables explained a significant proportion of the variance. However, the $t$ score for school satisfaction was not significant indicating that this variable did not significantly contribute to the model predicting grade point average. Because of the paltry adjusted $R^2$, it is reasonable to infer that these self-report variables are not successful predictors of student grades.

**Teacher behavior rating Multiple Regression analyses.** A series of multiple regression analyses were conducted to examine the association of teachers’ ratings of student behavior on students’ academic outcomes. Two hypotheses were tested to determine whether or not teacher BASC ratings could reliably predict 1) standardized test scores and 2) grade point average in this data set. An examination of the unstandardized
regression coefficients, and the t values for the independent variable provided
information concerning the contribution to the prediction of academic outcomes. Table 3
provides results for the regression equations.

For the first regression equation, teacher-reported (BASC) behavior rating scores
were entered into the model and accounted for a significant amount of variance (adjusted
$R^2 = 18\%$) in the prediction of standardized test scores ($F[1,56] = 13.53$, $p < .01$). The t
score was significant at $p < .01$, indicating that the variable explained a significant
proportion of the variance. When examined in comparison to student self-report
measures, as a single variable, teacher behavior ratings explained more variance than any
of the three self-report variables. However, in comparison with the self report model
(adjusted $R^2 = 28\%$), teacher behavior ratings explained a smaller proportion of variance
(adjusted $R^2 = 18\%$).

In the second regression equation, teacher-reported (BASC) behavior ratings
scores were entered into the model and accounted for a significant amount of variance
(adjusted $R^2 = 15\%$) in the prediction of grade point average ($F[1,168] = 30.15$, $p < .01$).
The t score was also significant at $p < .01$, indicating that this variable explained a
significant proportion of the variance. When examined in comparison to student self-
report measures, teacher behavior ratings explained more variance than any of the three
self-report variables individually and the model as a whole.

**Comparison of models.** Finally, multiple regression analyses were conducted to
determine whether or not self-report variables could explain a significant and meaningful
proportion of variance above and beyond that explained by teacher behavior ratings.
Two hypotheses were again tested, 1) predicting standardized test scores and 2)
predicting grade point average. An examination of the unstandardized regression coefficients (B), and the t value for each variable provided information concerning the contribution to the prediction of academic outcomes. Table 3 provides results for the regression equations.

For the first regression equation, teacher ratings of behavior (BASC) scores, student-reported academic competence, motivation in the classroom, and school satisfaction were entered into the model and accounted for a significant and large amount of variance (adjusted $R^2 = 37\%$) in the prediction of standardized test scores ($F[4,56] = 7.64, p < .01$). The t score for each variable (motivation, academic competence, teacher behavior rating) was significant at $p < .05$, except for school satisfaction, which had a t value that was not significant. The variables academic competence and teacher BASC ratings were significant at $p < .01$, indicating that these variables explained the most significant proportion of the variance. When examined alone as an individual predictor of standardized test scores teacher behavior ratings (BASC) explained a significant proportion of the variance (adjusted $R^2 = 18\%$) ($F[1,56] = 13.53, p < .01$). However, when student self-report variables were added to the equation, a significantly larger proportion of the variance was explained (adjusted $R^2 = 37\%$). This result indicates that by adding student self-report variables the prediction equation was strengthened (more variance was explained in this combined model than with either model, teacher report or student self-report, alone). Academic competence particularly added to the equation, with motivation in the classroom contributing as well. School satisfaction, as in the student self-report model, appears not to contribute significantly to the prediction of academic outcomes.
In the second regression equation, teacher ratings of behavior (BASC) scores, student-reported academic competence, motivation in the classroom, and school satisfaction were entered into the model and accounted for a significant amount of variance (adjusted $R^2 = 16\%$) in the prediction of grade point average ($F [4,168] = 9.04, p < .01$). The $t$ score for academic competence was significant at $p < .05$, and the $t$ score for Teacher BASC Rating was significant at $p < .01$, indicating that these variables explained a significant proportion of the variance. Obviously, teacher BASC Scores as a variable accounted for the largest proportion of variance and academic competence added only a small portion as the second variable. The $t$ scores for school satisfaction and motivation in the classroom were not significant, indicating that these variables did not significantly contribute to the model predicting grade point average above and beyond the contribution of teacher ratings. Because of the small 1% increase to the adjusted $R^2$, it is reasonable to infer that these self-report variables are not successful predictors of student grades and do not add anything worthwhile to the teacher rated BASC model.
Chapter 5
Discussion and Conclusions

Economically disadvantaged children appear to be successful reporters of their own academic competence. Academic competence ratings predicted a significant amount of variance in standardized test scores, above and beyond what was predicted by teacher behavior ratings. Teacher behavior ratings predicted 18% of the variance when examined alone, while Academic competence predicted 14%. However when combined with the other self report variables, motivation in the classroom and school satisfaction, the self report model predicted 28% of the variance in SAT 9 Battery Total. This is more of the variance than the 18% accounted for by the BASC score alone, thus the combined self report model was able to predict more of the variance in test scores than the BASC alone. Examining the combined model, including both self-report and teacher behavior ratings, 37% of the variance in test scores was accounted for. These data suggest that when predicting the success in school of economically disadvantaged children, it will be useful to ask them about their perceptions of schooling. Even at the elementary age, children can contribute valuable information that may allow educators to better serve them in schools. It may be particularly useful to ask children about their academic competence because, as these data suggest, if children believe they are competent in school, they are more likely to be so.

Asking children about their relationships with teachers and peers and their overall satisfaction in school may also be useful, but appears to be secondary in predicting academic outcomes. It is likely that the construct of school satisfaction was simply too broad and the questions too vague to find a strong relationship between that variable and
academic outcomes, but it would benefit future researchers to explore this issue farther. The construct of *motivation in the classroom* appears to be significantly related to standardized test scores indicating that if a child has positive relationships with teachers and peers, he or she may feel motivation to succeed in school (Knapp, 2001). Relational value is a type of motivation related to the interests of the people we care about. If a student cares about teachers or peers, he or she may be motivated to succeed in school because the important people in his or her life want them to. Considering Atkinson’s Expectancy x Value model of motivation, children may value success partly to please others, but they may also expect to succeed because of support from teachers, peers, and other adults in the classroom (Knapp, 2001). While it did not appear to be a crucial factor in predicting academic outcomes in this study, student reported motivation may also be a construct deserving more attention at the elementary school level. The level of support given by teachers and peers may have a unique effect at the elementary school level. A previously mentioned study with middle school students indicated that peers were a negative influence on disadvantaged children’s school success in middle and high school (Becker, 2002). This most likely depends on peer socialization however, and the type of friend groups that children are involved with (Cantin & Boivin, 2004). Here it seems that in elementary school strong relationships may have a positive effect on school success.

While results from this study shed light on the potential uses of student self-report in predicting SAT 9 Battery Total Scores, this finding did not generalize to other academic outcomes. Student self-report ratings predicted a very paltry amount of the variance in Grade Point Average (6%). While teacher ratings did predict grades more
successfully, they only accounted for 15% of the variance, which seems low considering that teachers rated behavior and assigned grades. In the combined model self-report and teacher ratings accounted for 16% of the variance, self-report ratings accounting for only 1% of the variance above and beyond what teacher ratings were able to account for. Further, no single construct significantly added to the prediction of GPA using a significance level of $p < .01$. From the results of this study, it seems that economically disadvantaged students’ beliefs about school are not predictive of their grades as assigned by teachers.

Teachers’ behavior ratings, however, did predict a significant proportion of variance in GPA. Perhaps grades in elementary school are most highly related to completing assignments, and to a lesser extent, mastery of subject matter. In this case, it makes sense that students with fewer problem behaviors would be more likely to make good grades. It is important to keep in mind though, that 15% is not a large portion of the variance. Possibly poor behavioral adjustment does not always indicate academic problems.

If grades are more related to completing work, and not to academic mastery, it makes logical sense that academic competence ratings would not predict GPA. However, it would seem that motivation in the classroom, affected by support and relational value of teachers and peers, would predict grades. Because GPA as a variable was so poorly correlated, and basically unrelated to each independent variable, it may simply be a bad outcome measure using an elementary school population. The standard deviation of GPA was 1.05, indicating that students in elementary school do not receive the broad range of grades that middle and high school students do. The mean GPA was 2.3, indicating an
average level of performance. With a wider distribution of grades, it may be possible to have a larger proportion of variance accounted for by the independent variables.

**Limitations of the Study**

While this study was intended to evaluate the utility of student self-report data in the prediction of academic outcomes, various complications have limited the magnitude and generalizability of the findings. Limitations of this study included unequal sample sizes and lack of consensus in the literature regarding the definitions of student self-report constructs.

Due to unavailable BASC data and SAT 9 scores for many subjects, the sample size for this study varied from N of 57 when predicting SAT 9 scores from teacher BASC ratings, to N of 252 when predicting GPA from student self-report measures. The sample size predicting SAT 9 from student self-report was 101, and finally, predicting GPA from BASC scores, the sample size was 169. While these sample sizes are adequate, it would have been optimal to have at least 81 subjects in each portion of analysis to assure adequate power (.80) for this study (Green, 1991). Having equal sample sizes would also have been beneficial, but discarding nearly 200 subjects from the analyses was not a reasonable consideration.

In reference to the three constructs identified through Factor Analysis measuring student self-report, an effort should be made to strengthen these measures for future research. *Academic competence*, the most promising construct relevant to predicting academic outcomes, may have been more adequately measured with additional items and by addressing the specific distinctions between types of competence. *Academic competence* could be measured by making a distinction between perceived *Academic*
competence and learning and performance goals. Considerable research has been done examining the differences in classes of achievement goals, and findings indicate that learning goals have more positive long term outcomes than performance goals (Kaplan & Midgley, 1997; Elliott & Dweck, 1988). For this study students responded to whether or not they were able to complete assignments and whether or not they were smart enough to do so. Questions did not probe into the motivations behind academic competence. For example, it would be interesting to know whether students are more concerned with grades and seeming smart to peers (performance oriented academic competence) or whether they are concerned with developing abilities (learning oriented academic competence). If we could distinguish between these two types of goals, researchers may find a subtype of academic competence that would be more predictive of later academic achievement.

The construct of motivation in the classroom was also plagued by a lack of consensus in theory. According to Vygotsky’s sociocultural theory, children develop as a result of social interaction with other individuals. In this study both motivational influences of peers and of teachers were examined. While other researchers like Piaget may downplay the importance of these peer interactions as motivational support, Vygotsky would consider them to be crucial in development and certainly important in motivating students to succeed (Woolfolk, 2001).

Another weakness with the constructs in this study was the lack of consensus in school satisfaction. This was intended to measure general feelings about the desire to be in school. This construct may have been too vague in nature for children to respond to in any meaningful manner. If children were asked about specific aspects of school life,
particularly related to academics, this construct could have been more suited to the purposes of this study. Another possibility with this construct is that students may feel particular pressure from peers or parents to report that they “like school.” Particularly at the elementary school level, students tend to view school as more “fun” on the whole and perhaps this construct was unable to discriminate between students who were more or less academically successful and enjoyed school in the long term.

**Implications for Practice and Recommendations for Future Research**

In the future, we need to ask children to tell us how they are doing academically. This study shows that economically disadvantaged children are successful at reporting on school related competencies. While teachers can also identify areas of weakness and understand students, educators may gain insight by asking the students themselves. In elementary school, children tend to be optimistic, but accurate in reporting on school experiences by the 3-5th grade (Wigfield & Eccles, 2002). This suggests that educators may be able to assist children with school problems earlier. It is particularly salient that this research was conducted with a population of children that can be classified as economically disadvantaged. These children tend to have more difficulties and are at higher risk for school failure than their upper and middle class counterparts. By asking these children about their academic experiences, educators may be able to take steps to stop the vicious cycle of school failure and poverty.

When conducting research, it is difficult to imply causation among variables. *Motivation in the classroom* and *academic competence* are important variables in predicting achievement outcomes, but more research needs to address the development of these constructs. Which comes first, a child’s academic ability or the competence that
they feel in the classroom? Does having the notion that you can succeed lead you to do better? As educators, we must instill the level of confidence in our students that leads to academic competence. At the same time, we need to assure that the competencies that our students have are displayed and fostered, thus leading to higher levels of confidence in their abilities.

In the realm of academic competence, it would be beneficial to be able to make more confident causal statements; however, the literature is mixed on this subject. Some researchers have found that academic self-efficacy predicts achievement (Pintrich & DeGroot, 1990) and others explain this notion further, saying that particularly in young children, effort is related to ability, thus if a child tries the task, success is attainable (Dweck, 2002). Dweck goes on to say that as children reach adolescence, ages 10-12, they are less likely to hold the optimistic view that effort is synonymous with intelligence. It her opinion, it is important to cultivate learning while children maintain an idealistic view.

While most of the research mentioned seems to imply a causal direction from academic competence and motivational beliefs to academic success, there is criticism that suggests it is unclear as to whether or not children’s innate ability is an important factor in their competence beliefs. Could academic competence simply be a child’s understanding of his or her own innate abilities, thus rendering it somewhat fixed? This leads back to the more basic question of whether or not “innate ability” or IQ exists as a fixed or somewhat fixed value. The literature on intelligence would suggest that a combination of heritability and environment determine the intelligence level of a child (Hart & Risley, 1995, Kamphaus 2002). A study done by Hart and Risley (1995) found
that children’s IQ was directly related to mother’s education level, but that a child’s IQ could be improved with interaction, reading, and basic environmental interventions, from a very young age. This discussion opens a very large debate that only tangentially relates to the present study. However, it is introduced to offer evidence that some environmental effect does exist for academic ability, and therefore motivation researchers are justified in suggesting that academic competency beliefs are environmental variables affected by interactions in school. In other words, *academic competence* is not just a reflection of a child’s knowledge of his or her own fixed ability level. This makes a successful argument for the importance of quality teachers and interesting subject material that will motivate students and help increase beliefs about academic competencies which can in turn lead to academic success. Clearly, the pathways through which academic self-efficacy operates are diverse and complex, indicating that further research is necessary (Bandura, 1986).

This idea that a child’s ability level may affect beliefs about academic competence or student motivation is an area that should be explored with future research. It would also be interesting to examine the stability over time of a child’s perceived academic competence. From this study it is only clear that the variables are correlated. Whether or not student self-report variables cause academic outcomes, they do have a function in predicting these outcomes. One predictor of success in school is whether or not a student believes he or she can be successful.
Chapter 6
Tables of Descriptives and Significant Findings

Tables of Descriptive Statistics and Results

Table 2a. Means, Standard Deviations and Sample Size

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Satisfaction</td>
<td>11.89</td>
<td>4.27</td>
<td>252</td>
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<tr>
<td>Motivation in the</td>
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<td>9.81</td>
<td>252</td>
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<td>Classroom</td>
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<td>252</td>
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<td>10.14</td>
<td>169</td>
</tr>
<tr>
<td>BASC-BSI Score</td>
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<td>28.22</td>
<td>101</td>
</tr>
<tr>
<td>GPA</td>
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Table 2b. Correlation Matrix

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<td>1. School Satisfaction</td>
<td>.456**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Motivation in the</td>
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<td>.345**</td>
<td>.193**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom</td>
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<td></td>
<td></td>
<td>.094</td>
<td>.232**</td>
</tr>
<tr>
<td>3. Academic Competence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.379**</td>
</tr>
<tr>
<td>4. BASC-BSI Score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.444**</td>
</tr>
<tr>
<td>5. SAT 9 Battery Total</td>
<td>.163</td>
<td>.052</td>
<td>.379**</td>
<td>.444**</td>
<td></td>
</tr>
<tr>
<td>6. GPA</td>
<td>.063</td>
<td>.203**</td>
<td>.183**</td>
<td>.391**</td>
<td>.707**</td>
</tr>
</tbody>
</table>

Note: * p < .05, ** p < .01
Table 3 Hierarchical Multiple Regression Results with SAT 9 Battery Total (Test Scores)-a and with Grade Point Average- b

<table>
<thead>
<tr>
<th>Equation</th>
<th>Step</th>
<th>Variables</th>
<th>Beta</th>
<th>t</th>
<th>Significance</th>
<th>( R^2 ) Statistics (adjusted)</th>
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</thead>
<tbody>
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<td>Academic Competence</td>
<td>0.456</td>
<td>5.039</td>
<td>**</td>
<td>0.144</td>
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<td>2</td>
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<td>3</td>
<td>Classroom</td>
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<td>0.134</td>
<td>0.893</td>
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</table>
Table 4 Summary of Significant Findings (R² Values)

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>SAT-9 Battery Total</th>
<th>GPA</th>
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<tr>
<td>Teacher-rated BASC BSI Score</td>
<td>0.183</td>
<td>0.148</td>
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<tr>
<td>Academic Competence</td>
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<td>0.013</td>
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<tr>
<td>Motivation in the Classroom</td>
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<tr>
<td>School Satisfaction</td>
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<tr>
<td>Total R² for Combined Model</td>
<td>0.369</td>
<td>0.161</td>
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</table>
References


Donohue, K.M., Perry, K.E., & Weinstein, R.S. (2003). Teachers’ classroom practices
and children’s rejection by their peers. *Applied Developmental Psychology*, 24, 91-118.


Quarterly, 6, 103-111.


Kowalski-Jones, L. & Duncan, G.J. (1999). The structure of achievement and behavior


Appendix A

Student Experiences Factors Identified Through Exploratory Factor Analysis with Varimax Rotation

School Satisfaction Scale - Internal Consistency of Items- .795

<table>
<thead>
<tr>
<th>Item</th>
<th>factor loading</th>
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</thead>
<tbody>
<tr>
<td>34 I look forward to going to school</td>
<td>.774</td>
</tr>
<tr>
<td>36 I like being in school.</td>
<td>.813</td>
</tr>
<tr>
<td>38 School is interesting.</td>
<td>.707</td>
</tr>
<tr>
<td>40 <em>REVERSE CODE</em> I wish I didn't have to go to school.</td>
<td>.615</td>
</tr>
<tr>
<td>42 There are many things about school that I like.</td>
<td>.707</td>
</tr>
<tr>
<td>44 I enjoy school activities.</td>
<td>.611</td>
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</tbody>
</table>

Motivational Support in the Classroom

Peer relationships in the Classroom Scale - Internal Consistency of Items- .840

<table>
<thead>
<tr>
<th>Item</th>
<th>factor loading</th>
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<tbody>
<tr>
<td>3 <em>REVERSE CODE</em> The kids in my class make fun of me when I make a mistake.</td>
<td>.643</td>
</tr>
<tr>
<td>4 <em>REVERSE CODE</em> Many of the students in my class are selfish and don't seem to care about others.</td>
<td>.684</td>
</tr>
<tr>
<td>6 <em>REVERSE CODE</em> There are a lot of mean kids in my class</td>
<td>.731</td>
</tr>
<tr>
<td>7 When I do well in class, my classmates are happy for me.</td>
<td>.433</td>
</tr>
<tr>
<td>20 It is easy to make friends in my classroom, and everyone seems to have friends.</td>
<td>.429</td>
</tr>
<tr>
<td>21 It is easy to stay out of trouble in my classroom.</td>
<td>.436</td>
</tr>
<tr>
<td>23 <em>REVERSE CODE</em> When someone on my class makes fun of someone else, other join in.</td>
<td>.745</td>
</tr>
<tr>
<td>14 <em>REVERSE CODE</em> Students in my class call each other names and try to make each other mad.</td>
<td>.795</td>
</tr>
<tr>
<td>28 The students in my class remind each other to follow the rules and to be nice to each other.</td>
<td>.439</td>
</tr>
<tr>
<td>30 <em>REVERSE CODE</em> When someone</td>
<td>.548</td>
</tr>
</tbody>
</table>
says or does something dumb or silly in my room, everybody laughs.

Collaboration in the Classroom Scale - Internal Consistency of Items - .746

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<thead>
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<td>.543</td>
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<td>.532</td>
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<td>27</td>
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<td>29</td>
<td>.513</td>
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<td>9</td>
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Academic Competency Scale – Internal Consistency of Items - .772

<table>
<thead>
<tr>
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<td>41</td>
<td>.798</td>
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<tr>
<td>35</td>
<td>.768</td>
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<tr>
<td>43</td>
<td>.688</td>
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