AN EXAMINATION OF PARENT AND TEACHER EXPECTATION CONGRUENCE AND STUDENT OUTCOMES

by

COURTNEY L. GLUECK

(Under the Direction of Amy L. Reschly)

ABSTRACT

A significant amount of research has investigated the importance of school-family partnerships in facilitating positive academic outcomes for students. Existing literature suggests that students are more likely to achieve positive outcomes if home and school communicate and provide children with *congruent* messages about learning; however, few studies have provided empirical evidence of these effects. The present study aims to increase understanding about the relationship between parent and teacher expectations and academic achievement, using data from the Education Longitudinal Study of 2002 (ELS:2002), including test scores and reports from students, parents, and teachers. Results indicated that, while congruent parent and teacher expectations contributed to positive student outcomes, the contribution was less significant than that of parent and teacher expectations alone. In addition, within an "at risk" population, significant differences in achievement were found between congruence groups. Conclusions and implications for educators and families are discussed.

INDEX WORDS: parent and teacher expectations, congruence, systems theory, academic achievement, at-risk populations

AN EXAMINATION OF PARENT AND TEACHER EXPECTATION CONGRUENCE AND STUDENT OUTCOMES

by

COURTNEY L. GLUECK

B.S., Louisiana State University, 2007

A Thesis Submitted to the Graduate Faculty of the University of Georgia in Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

ATHENS, GEORGIA

2010

AN EXAMINATION OF PARENT AND TEACHER EXPECTATION CONGRUENCE AND STUDENT OUTCOMES

by

COURTNEY L. GLUECK

Major Professor: Amy L. Reschly

Committee: A. Michele Lease
Stacey Neuharth-Pritchett

Electronic Version Approved:

Maureen Grasso
Dean of the Graduate School
The University of Georgia
August 2010

ACKNOWLEDGEMENTS

I would like to extend my sincerest gratitude to the faculty, family, and friends who have supported me throughout this process. To my major professor, Amy Reschly, I thank you for continuously challenging and encouraging me and for being my guide in this and many other academic endeavors. I wish to acknowledge the National Center for Education Statistics for the use of the data involved in this study. I would also like to thank Drs. Michele Lease and Stacey Neuharth-Pritchett for the useful feedback. Finally, I owe my deepest appreciation to my parents, additional family members, and close friends for the unfailing creative, intellectual, financial, and emotional support they have provided me and the enduring, unconditional love they have always shown.

TABLE OF CONTENTS

Page

LIST OF FIGURES

Page

LIST OF TABLES

Page

CHAPTER 1: INTRODUCTION

Systems Theory

Principles of systems theory

Evidence for the importance of home and school environments for children's academic success abounds in school-related research and literature. Dating back as far as the seminal work of Bronfenbrenner (1977) is the idea that context plays a significant role in students' development and outcomes. Furthermore, it is well-established that this contextual influence is multidimensional, with successful outcomes for students being determined by within-student characteristics, experiences in familiar contexts, as well as more distant influences of the student's culture and society (Pianta & Walsh, 1996). In his classic ecological systems-theory model, Bronfenbrenner (1977) viewed children as developing within an ecological environment consisting of nested structures, each contained within the next. These structures spanned from a student's immediate surroundings to broader economic, social, educational, legal, and political systems. Also nested within the ecological environment are interactions between the structures, which affect a child's development throughout the lifespan. As Reschly, Coolong-Chaffin, Christenson, and Gutkin (2007) indicated, development is then understood as the process of ongoing adaptation between an individual and the various environments in which that individual is embedded.

The environments or structures considered within the systems theory framework include the *microsystem*, *mesosystem*, *exosystem*, and *macrosystem*. The *microsystem* is the principle context in which development occurs and was described by Bronfenbrenner (1977) as the

relations between person and environment in any immediate setting containing that person. That is, the microsystem consists of any environment in which a student may have direct experiences; examples of microsystems include, but are not limited to, the student's home, school, peer groups, workplace, etc (Downer & Myers 2010). In addition, it is important to note that microsystemic influences often receive the most attention and focus within research on students' academic and life outcomes. The *mesosystem* refers to the links and interrelations between various microsystems, and it is largely within the mesosystem that school-family partnerships are created and maintained. Patrikakou, Weisberg, Redding, and Walberg (2005) suggested that "the more interconnections are established between the major social institutions and contexts in a child's life, the more long term benefits can be achieved" (p. 6). The *exosystem* is often referred to as an extension of the mesosystem, of sorts, containing environments which are not directly experienced by a person but nevertheless affect their development. Common examples of exosystems are parents' workplaces and teachers' university training programs (Downer & Myers, 2010). Finally, the *macrosystem* encompasses the broader cultural characteristics and prototypes that, according to Bronfenbrenner (1977), set the pattern for the interactions and activities occurring at other levels. It is essential that influences of the more distal systems contained within the macrosystem be considered when discussing school-family partnerships, including cultural stereotypes, legislation, school reform, poverty, etc.

Bronfenbrenner (1986) later proposed the addition of a fifth system to the systems theory model, the *chronosystem*. The chronosystem refers to the "all-important temporal element" of the previously discussed framework (Downer & Myers, 2010). Contained in the chronosystem are within-person and within-context changes that occur over time and affect student development. According to Bronfenbrenner (1986), contextual influences within the chronosystem largely

focus around life transitions; both normative (e.g., school entry, puberty, marriage, retirement, etc.) and nonnormative (e.g., death in the family, divorce, winning the lottery, etc.). Although influences of certain structures within the systems theory framework may be more evident (i.e., micro and mesosystems), when discussing school-family relationships and the widespread effects of context on students' academic outcomes, it is imperative to consider the impact of contextual factors at all levels.

Implications for education

For contemporary practitioners in the educational field, systems theory aims to provide a theoretical foundation and model for working across families and schools to promote school success for students, given that schools and homes are the primary socializing contexts for children. Several basic assumptions and principles of systems theory are particularly relevant to educational practices and should be considered and applied in order to improve student development (Downer & Myers, 2010; Reschly et al., 2007). One important assumption is that students are "an open system," experiencing continual, reciprocal exchanges with all surrounding contexts. These ongoing interactions lead to adaptations (or lack thereof) on the part of the student and the context itself, leading to positive or negative outcomes for the student. Furthermore students' outcomes provide feedback to the system, leading to further continual adjustment and adaptation. The dynamic nature of this process and the unique way in which it manifests itself for different individuals supports the ideas of *multifinality* and *equifinality* (Bergman & Magnusson, 1997; Cicchetti & Rogosch, 1996; Sameroff & Seifer, 1983; Sroufe & Rutter, 1984, etc.), two important complementary organizational principles of systems theory that relate to the above-mentioned assumption.

According to Reschly et al. (2007), *multifinality* refers to the idea that similar initial conditions can lead to varying outcomes; more specific to the current investigation, this principle reflects the idea that students with comparable intellectual and behavioral characteristics, family and educational backgrounds, support systems, etc. can achieve dissimilar academic outcomes. Furthermore, the principle of *equifinality* suggests that different initial conditions can lead to highly similar outcomes. That is, students coming from diverse backgrounds or possessing disparate characteristics can potentially achieve similar educational outcomes.

Both of the aforementioned principles are important concepts for educators and those who work with them to consider. On one hand, while there is a vast body of research dedicated to delineating contributors to positive student outcomes, it is imperative to keep in mind that no "one right way" exists; the same student outcome (e.g., high motivation to learn, etc.) can be attained through "a diverse range of developmental pathways" (Downer & Myers, 2010). In addition, a particular input, such as a parent-teacher conference, may lead to drastically different results within a parent-teacher relationship, for example (Reschly et al., 2007). Likewise, as will be discussed later in terms of students labeled "at risk" for dropout, students with different familial backgrounds, home environments, learning styles, etc. may experience similar degrees of school success.

An additional principle of systems theory that can be applied when discussing the importance of positive school-family relationships is that of *nonsummativity*, or the idea that relationships between systems are greater than the sum of their parts (Downer & Myers, 2010; Reschly et al., 2007). That is to say, when two systems interact (e.g., child and parent, parent and teacher, home and school, etc.), the relationship formed by said interaction creates a new system that is superordinate and likely to exert greater influence on the student than the two systems

individually. This further speaks to the focus of the current study and the value of creating strong, positive, lasting relationships between educators and parents, or more broadly speaking between home and school, in order to improve student development and outcomes.

Another principle of systems theory that enriches our understanding of student development is that of *circular causality* (Reschly et al., 2007). To discuss this principle it should first be noted that the aforementioned levels or structures within systems theory are conceptualized as radiating outward from the student in concentric circles of influence (see Figure 1). The principle of *circular causality* posits that every action within a system causes a nonlinear change, or a ripple effect, throughout the other systems. That is, there are proximal and distal systems operating around the student, but all have the ability to effect student development, either directly or indirectly; all levels of systems are interconnected (Downer & Myers, 2010).

As previously alluded to, the integration of systems theory into educational practice is essential to promote positive outcomes for all students. Furthermore, focus must extend beyond the immediate contextual influences which affect student functioning and development (i.e., home, school, and community) to include the *interactions* among these contexts and the individual over time (Reschly & Christenson, 2009). As previously mentioned, too often, research and practical focus is limited to microsystemic influences on students. A great deal of literature exists examining the influences of family *or* school characteristics on student outcomes, including the effects of status variables, such as socioeconomic status (e.g., Christenson, Rounds, & Gorney, 1992; Coleman, 1987; Fan & Chen, 2001; Fantuzzo, Tighe, & Childs, 2000); however, for most students, it is the home-school relationship that is most relevant. Reschly and Christenson (2009) suggested that "partnerships among educators and

families, which operate at the mesosystem, are the most compelling example of the integration of systems-ecological theory with educational practice" (p. 7). Furthermore, to be most effective, these partnerships require *engaged* relationships between families and educators (i.e., consisting of collaborative problem solving, two-way communication about children's instructional needs, and shared decision making) focused on supporting students and families with the goal of optimizing educational outcomes for all youth (Reschly & Christenson, 2009). One aim of the present study is to begin to fill in the gap in this body of literature by bringing to the forefront specific aspects the home-school partnership, in this case congruent expectations for student outcomes, which may benefit students. Following is a brief review of the relevant literature that exists supporting the need for both family involvement and positive, collaborative school-family partnerships in improving outcomes for students.

Literature Support for Family Involvement and School-Family Partnerships

As previously stated, the importance of context to students' development is well known among researchers and practitioners alike, particularly within the *micro* and *mesosystems*. We first focus on the microsystemic influence of a student's family and the home environment in which they develop. Due to the substantial and important role a family plays in fostering a student's academic development and facilitating success, a great deal of research interest has been placed on family involvement as it relates to the advancement of schools' educative purpose.

When reviewing the overall findings within this area of research, it is important to first sort through the various definitions of parent or family involvement. In general, the term "parent involvement" is used to refer to the participation of significant caregivers (e.g., parents, grandparents, stepparents, foster parents, etc.) in their children's educational processes in order

to promote their academic and social well-being (Fischel & Ramirez, 2005). Over the years, however, the specific definition of parent involvement has been debated within theoretical literature, leading to a somewhat disjointed body of empirical research. In recent years, the most oft-cited definition is based on a typology proposed by Epstein and her colleagues (Fan & Chen, 2001; Fantuzzo et al., 2000; Fischel & Ramirez, 2005, etc.). Epstein and colleagues' (1991, 1996) framework consists of the following six categories of family involvement: 1) parenting (i.e., basic obligation of families to provide for their children's needs), 2) communicating (i.e., basic obligation of schools to maintain regular contact with parents regarding student's progress), 3) volunteering (i.e., parent/family involvement in activities at school), 4) learning at home (i.e., parent/family practices involving interacting with, monitoring, and assisting children in educationally related activities), 5) decision making (i.e., parent/family participation in school governance and advocacy), 6) collaborating and community (i.e., connections and exchanges with community organizations that share responsibility for children's education and success).

Much evidence has been gathered supporting the active involvement of parents and families in various aspects of students' education. According to a comprehensive literature review conducted by Ginsburg-Block, Manz, and Mcwayne (2010), research on family involvement has found associations between parent involvement in educational activities, both within the school and home settings, and students' achievement in various academic areas, including reading, writing, and mathematics. Furthermore, in their review of research findings relevant to this subject area, Reynolds and Clements (2005) discussed three categories of evidence pertaining specifically to the impact of parent involvement on children's academic success based largely on data collected through the Chicago Longitudinal Study (1999). Relevant findings included (1) the positive effect on children's outcomes gained by interventions that

included a family support component, (2) the discovery of parent involvement as a mechanism through which long-term effects are achieved, and (3) the association of certain parent involvement indicators (e.g., home support for learning, child-parent interactions, participation in school activities, involvement in school associations, expectations for children's success and educational attainment, etc.) with significantly higher levels of school performance and success.

In their comprehensive meta-analysis, which investigated the impact of various aspects of parent involvement (i.e., aspiration, communication, participation, and supervision) on student achievement, Fan and Chen (2001) found a "practically meaningful" relationship between parental involvement and academic achievement. This relationship was strongest when a global measure of achievement was used (e.g., GPA), as opposed to measures of achievement in specific areas (e.g., math grade). Furthermore, parental aspirations/expectations were found, through moderator analysis, to have the strongest relationship with student achievement.

In an attempt to further the knowledge base related to the family's influence on children's schooling, the Parent and Family Intervention domain of the Evidence-Based Interventions in School Psychology Task Force (formerly called the Task Force on Empirically-Supported Interventions in School Psychology) presented findings of several articles in a special issue of *School Psychology Quarterly* (2005), examining the degree to which scientifically based research has found that parent and family interventions were effective in changing children's school learning and behavior. Within this issue, six review articles were presented examining the evidence base for various parent-, family-, and school-centered interventions. Specifically, three studies investigated various parent/family-focused intervention approaches; two reviews focused on parent and family treatments and training programs as a model for intervening with children in school, while the third looked at cases in which parent consultation was utilized.

Bates (2005) reviewed 15 studies of family interventions used with preschool children between 1980 and 2002 and found that the most promising interventions included parent and teacher training, parent education, and behavioral family therapy (i.e., Parent-Child Interaction Therapy). Positive effects gleaned from these approaches included declines in children's behavior problems, increases in positive parenting behaviors, increases in parental involvement at school, and increased teacher-parent bonding. Valdez, Carlson, and Zanger (2005) also conducted a review of 24 studies examining the effects of parent training and family interventions with older school-aged children. Authors found one parent training (i.e., Parent Management Training + Problem-Solving Skills Training) and one family-focused behavioral intervention (i.e., Social Learning Family Therapy) to be effective, across randomized trials, in changing children's problematic behavior and improving functioning in school. Furthermore, Multidimensional Family Therapy, Multisystemic Therapy, and Family Behavior Therapy were found to be "probably efficacious" with less conclusive evidence presented. In addition, Guli (2005) examined the utility of parent consultation in terms of improving students' academic success, finding evidence supporting the use of parent consultation as a mode of treatment delivery for various school-related behavioral concerns, including problems with social skills and homework completion.

While evidence exists supporting the necessity of family involvement and the use of interventions that include a parent- or family-focused component, it is important to note that recent reviews of research in this area have increasingly shed light on inconsistencies and methodological flaws in this body of literature, limiting the conclusions that can be drawn. Several studies published in the above-mentioned issue of *School Psychology Quarterly* (2005) cited methodological weaknesses such as lack of replication studies, lack of sufficient follow-up

data, failure to isolate specific component effects, lack of between-group design studies in certain areas, use of outcome measures with inadequate reliability and validity, and failure to report participant data and effect sizes (Bates, 2005; Fischel & Ramirez, 2005; Guli, 2005; Hoard & Shepard, 2005; Valdez et al., 2005; etc.).

As alluded to previously, theory suggests that a significant part of the contextual influence surrounding students (a part that is too-often overlooked) is comprised of mesosystemic factors, or the *relationships* between the various microsystems (e.g., home and school, school and community, etc.). Consequently, in lieu of simply encouraging family involvement in students' education, researchers and practitioners are increasingly advocating for the presence of a *collaborative* home-school partnership, believed to be key in promoting positive academic outcomes for students (Bempechat, 1998; Christenson & Reschly, 2010; Christenson & Sheridan, 2001; Patrikakou et al., 2005; Pianta & Walsh 1996; etc.). Christenson (2004), for example, spoke of family-school partnerships as salient for positive developmental and learning outcomes for students, urging for an emphasis on reciprocal influences of families and schools and delivery of congruent messages about the value of learning. "When schools build partnerships with families that respond to their concerns and honor their contributions, they are successful in sustaining connections that are aimed at improving student achievement," and students are able to make greater gains (Henderson & Mapp, 2002, p. 8).

While less research exists investigating the reciprocal interactions that characterize successful family-school partnerships, there has been some empirical support. For example, within the previously mentioned special edition of *School Psychology Quarterly* (2005), commissioned to examine the effectiveness of parent and family interventions, a number of interventions with a family-school collaborative component were found to be promising. In his

commentary, Ollendick (2005) summarized the overall findings throughout the issue, noting that more support was found for interventions that were part of a multi-component program, were highly focused in scope, *and involved active collaboration between parents, students, and schools.* Home-school collaboration interventions, specifically those in which parents and school personnel worked together to implement an intervention with regular two-way exchange of information, were effective in helping achieve desired outcomes for students (e.g., improved academic performance and school-related behavior; Cox, 2005). Cox (2005) noted that a key feature found in the most successful interventions among the articles reviewed was that schools and families not only collaborated with one another, but treated each other as equals. "As a result, families felt more empowered to help their children and more comfortable participating in their child's education." (Cox, 2005, p. 491)

In addition, research examining consultation approaches and their effect on student outcomes has found evidence for the importance of involving parents *and* teachers in the consultation process. Among the parent consultation interventions investigated in Guli's (2005) review of the literature, the Conjoint Behavioral Consultation (CBC) model (Sheridan & Kratochwill, 2007), a model involving joint consultation with parents *and* teachers, provided the strongest evidence for producing significant school-related outcomes. This finding is consistent with earlier research done by Sheridan and colleagues which found that interactions involving families, educators, and school psychologists in joint problem solving are effective in improving students' academic, social, and behavioral functioning; furthermore, this collaborative approach leads to more long-term changes than parent or teacher consultation alone (as cited in Christenson & Sheridan, 2001).

Importance for at-risk students

Also of consequence is the empirical support for the importance of school-family partnerships in reducing the level of academic, behavioral, and emotional risk for students throughout their development (Stormshak, Dishion, & Falkenstein, 2010; Webster-Stratton & Reid, 2010). According to Finn & Rock (1997), risk "embodies the notion that exposure to particular conditions, or risk factors, increases the likelihood that an individual will experience certain adverse consequences." Rather than viewing risk as a property of children themselves, risk is thought to exist in interactions, transactions, and relationships among the multiple systems surrounding children (Pianta & Walsh, 1996). Consequently, researchers have posited that the quality of school-family partnerships may serve as a primary contributing factor to the level of child risk. Reschly and Christenson (2009) stated the following:

> "…for students and families who are at higher risk for poor outcomes (e.g., those living in poverty, students with disabilities), the mesosystem of home and school takes on greater importance as a factor that either exacerbates these risk conditions or ameliorates them by promoting additional learning opportunities aimed at enhancing positive outcomes for youth." (p. 9)

Pianta and Walsh (1996) suggested that children are educated in "low-risk circumstances" if their family and school systems are functional, communicative, and they provide congruent messages about learning and its importance. Furthermore, Phelan, Davidson, and Yu (1998) posited that students who experience discontinuity between their home, peer, and school environments are most at-risk for poor school performance. Following is a discussion of two critical elements of the home-school partnership: *congruence* between the home and school environments and *high and realistic expectations* for students' success.

Essential Elements: Congruence and Expectations

As previously mentioned, there is no shortage of research evidence supporting the importance of the home and school environments in the lives of students, and a topic often discussed in this literature is the particular importance of congruence between home and school environments for children's academic success (e.g., Christenson, 2004; Christenson & Anderson, 2002; Christenson & Sheridan, 2001; Finn & Rock 1997; Pianta & Walsh, 1996), particularly with regard to expectations and support for students' learning. One of the most important outcomes of the previously discussed partnership process for families and schools is "congruence across these main socializing agents in terms of expectations and messages about education and behavior" (Reschly & Christenson, 2009, p. 8). As the chief socializing agents during students' school-age years, families and schools provide experiences and set up educational expectations that are consistently and often powerfully linked to students' early and later schooling outcomes (Downer & Myers, 2010). In the paragraphs that follow, the theoretical and empirical support for congruence between home and school settings and the specific roles played by family and educator expectations are discussed.

Congruence

With regard to theoretical support for the importance of congruence in general, Pianta and Walsh (1996) named congruence in messages provided by home and school environments as a contributing factor to maintaining low levels of risk for poor student outcomes. In addition, they also discussed the specific impact that incongruence among these socializing contexts can have on children. They posited that incongruence may create a high risk for negative student outcomes, stating that children who receive conflicting or incongruent messages from home and school with regard to the importance of learning will likely derive meaning from these messages

that results in conflicting emotions, motivations, or goals. According to numerous researchers and practitioners within this field of study, school-family partnerships are defined by *shared* (i.e., *congruent*) goals as well as shared contributions and accountability. Furthermore, these partnerships should involve collaborative problem solving as an essential activity, thereby exhibiting "true systems thinking in practice," as the authors have previously emphasized (Christenson & Sheridan, 2001; Fantuzzo et al., 2000).

The concept of congruence among home and school environments being a necessity for positive student outcomes is not a new one, and some research has been done to further support this claim. For example, in a 1984 study Hess and Holloway found that a consensus among home and school pertaining to the goals of education was essential to counter information from competing sources (e.g., media, peers, etc.). Furthermore, this study also found that discontinuities between families and schools "compromise the effectiveness of either parents or educators as socializing agents" (Hess & Holloway, 1984). In addition, Hansen (1986) found positive achievement gains from third grade to fifth grade for students who experienced congruence in rules and interaction styles among home and school environments. Despite the positive evidence referenced here, this field of research remains far more advanced theoretically than empirically, and additional research is needed to adequately tie theory to practice.

Expectations

Researchers have also found certain aspects of a successful home-school relationship to key in promoting academic success for students; including, but not limited to, shared expectations, consistent structure, cross-setting opportunities to learn, presence of positive and respectful adult-youth relationships, and mutual support (Christenson & Peterson, 1998). While evidence exists supporting the importance of these variables, very little empirical research has

been done to investigate each of them more specifically as they relate to student outcomes. For the purposes of this study, focus is placed on investigating the importance of congruence among parent and teacher expectations, specifically, in facilitating academic success for students.

The process by which these expectations affect students' academic success has been discussed throughout the literature, particularly within the area of student motivation. A theory of motivation often applied to student achievement in the classroom is expectancy-value theory. Developed and researched by Eccles, Wigfield, and colleagues, the expectancy-value theory of motivation argues that an individual's choice, persistence, and performance on a task can be explained by (a) his or her expectation for performing the task successfully and thereby obtaining some reward associated with successful completion of that task and (b) the value that person places on the rewards he or she is to receive (Wigfield & Eccles, 2000; Tollefson, 2000). Expectancies and values are believed to be most heavily influenced by task-specific beliefs (i.e., ability beliefs, perceived task difficulty, individual goals, and affective memories), which, in turn, are influenced by individuals' perceptions of previous experiences and various socialization influences (e.g., home and school).

Meece, Glienke, and Burg (2006) discuss two types of student beliefs within this framework that are seen as most important in determining student motivation and, consequently, student achievement. Here we focus on *competency beliefs*, which refer to an individual's estimation of his or her ability to perform or to succeed at an activity, and it is here that family and educator are believed to play a large role. Students' beliefs about their own abilities are largely influenced not only by past experiences with that activity, but also by others expectations for their success. In fact, in their comprehensive review of the literature, Christenson, Rounds, & Gorney (1992) cited a study in which parents' beliefs were found to be more directly related to

children's expectations than were children's past performances (i.e., Parsons, Adler, Karzala, & Meece, 1982). In addition, with respect to teacher's expectations research has shown significant relationships between teacher expectations and student achievement and enjoyment of school (e.g., Hallinan, 2008; Hinnant, O'Brien, & Ghazarian, 2009; Mistry, White, Benner, & Huynh, 2009).

The importance of facilitating student motivation in this way in order to improve student achievement is well supported throughout the empirical literature. Research has suggested that when students are motivated to complete an academic task such as reading, writing, or math (i.e., they believe that *can* complete the task successfully and they *value* the task), they choose to engage in that task more frequently and create more opportunities to practice that skill (Kelley & Decker, 2009). This additional practice in turn leads to higher achievement in that academic area. Conversely, a lack of academic motivation will likely deter a student from seeking opportunities to practice, resulting in lower levels of achievement. In addition, in a meta-analysis conducted by Fan and Chen (2001) that synthesized the quantitative literature about the relationship between parental involvement and students' academic achievement, parents' aspirations and expectations for their children's educational achievement were found to have the strongest relationship with students' academic achievement. Christenson and Peterson (1998) also conducted a review of the literature aiming to identify the influence of family, school, and community systems on children's learning, in which they found "standards and expectations" to be one of six facilitators of academic achievement. More specifically, they found that students' academic success is made possible when families and educators set specific goals and standards for student performance and discuss their expectations with the student (as cited in Christenson & Anderson, 2002).

It is important to note, however, that the exact relationship between parent/teacher expectations and student achievement remains unclear. Although high academic achievement is consistently found to be correlated with realistic, high expectations, it is not known whether those expectations initially affect achievement or vice verse. Furthermore, it has been suggested that expectations have an indirect impact on students' academic performance with many additional mediating variables playing important roles (Christenson, Rounds, & Gorney, 1992). For example, it is conceivable that parent/teacher expectations directly influence certain parent and/or teacher behaviors that, in turn, facilitate students' academic achievement. More research is needed in this area to further decipher the exact nature of this relationship.

Limitations of Research

Although our evidence-base strongly suggests that family and parental involvement are associated with improved academic outcomes for students, it is important to note that our understanding of these processes is limited for a number of reasons (Reynolds & Schlafer, 2010). Two oft-cited reasons for our limited knowledge in this area are the inconsistency of definitions of parent involvement and the variability in levels of methodological rigor across studies. Pertaining to the former, although the previously mentioned framework developed by Epstein and her colleagues (1991, 1996) is most often used to define parent involvement, according to Fan and Chen (2001), "parent involvement" has been defined as representing numerous parental behaviors and parenting practices including, but not limited to, parental aspirations for children's achievement, parent-child communication about school, participation in school activities, parent-teacher communication about children's academic performance, and education-related rules imposed at home. While researchers are becoming increasingly aware of the need to define involvement in terms of what families are doing at school *and* at home to promote student

learning, the overall lack of consistency in the definition of what constitutes "parent involvement" makes it increasingly difficult to draw any general conclusions across studies while also potentially contributing to the inconsistent findings in this area.

With regard to the latter of the two above-stated limiting factors, lack of methodological rigor often makes it difficult to establish the direction of influence from involvement to child outcomes (Reynolds & Schlafer, 2010). Furthermore, children of involved parents may experience higher levels of academic success for reasons other than involvement. As previously mentioned, empirical literature in this area is plagued by methodological weaknesses (e.g., lack of replication studies and sufficient follow-up data collection, failure to isolate component effects, inadequate reliability and validity of outcome measures, failure to report essential data, etc.), making it difficult to determine the precise process by which parent involvement and school-family partnerships contribute to improved student outcomes; however, the correlation between these factors is well documented, as previously discussed (Bates, 2005; Fischel & Ramirez, 2005; Guli, 2005; Hoard & Shepard, 2005; Valdez et al., 2005; etc.).

Purpose of the Present Study

Literature reviewed above advocates for the development of strong, positive school-family partnerships in order to best facilitate student success in school. In addition, the need for congruence between the home and school environments has been suggested; however, few studies exist in this area, and those that do rarely, if ever, go beyond stating the importance of overall congruence to investigate specific conditions that families and schools should focus together on promoting. With the current national focus on promoting school completion, college preparation and attendance, and shared responsibilities for student outcomes, there is an evident and ever-growing need for studies informing educators and families about specific effects of

congruence in various aspects of the home and school environments. Additionally, the role played by family and educator expectations in student achievement is unclear, although theory strongly supports their importance.

The purpose of the present study is to increase understanding of the relationship between parent and teacher expectations and students' academic achievement by specifically investigating the impact of congruence. The present study highlights the relationships between these variables in reference to the general population while also investigating differences among specific populations, such as students deemed "at risk" for poor outcomes, based on various risk indicators outlined in the literature. The following questions are considered:

1) Does congruence between parent and teacher expectations explain unique variance in *current* student achievement, above and beyond demographic variables and parent/teacher expectations individually?
2) Does congruence between parent and teacher expectations *predict* unique variance in *future* student achievement, above and beyond demographic variables and parent/teacher expectations individually?
3) Within a demographically at-risk population (lowest socioeconomic status quartile), when grouped by congruence in expectations, do students' achievement scores differ significantly.

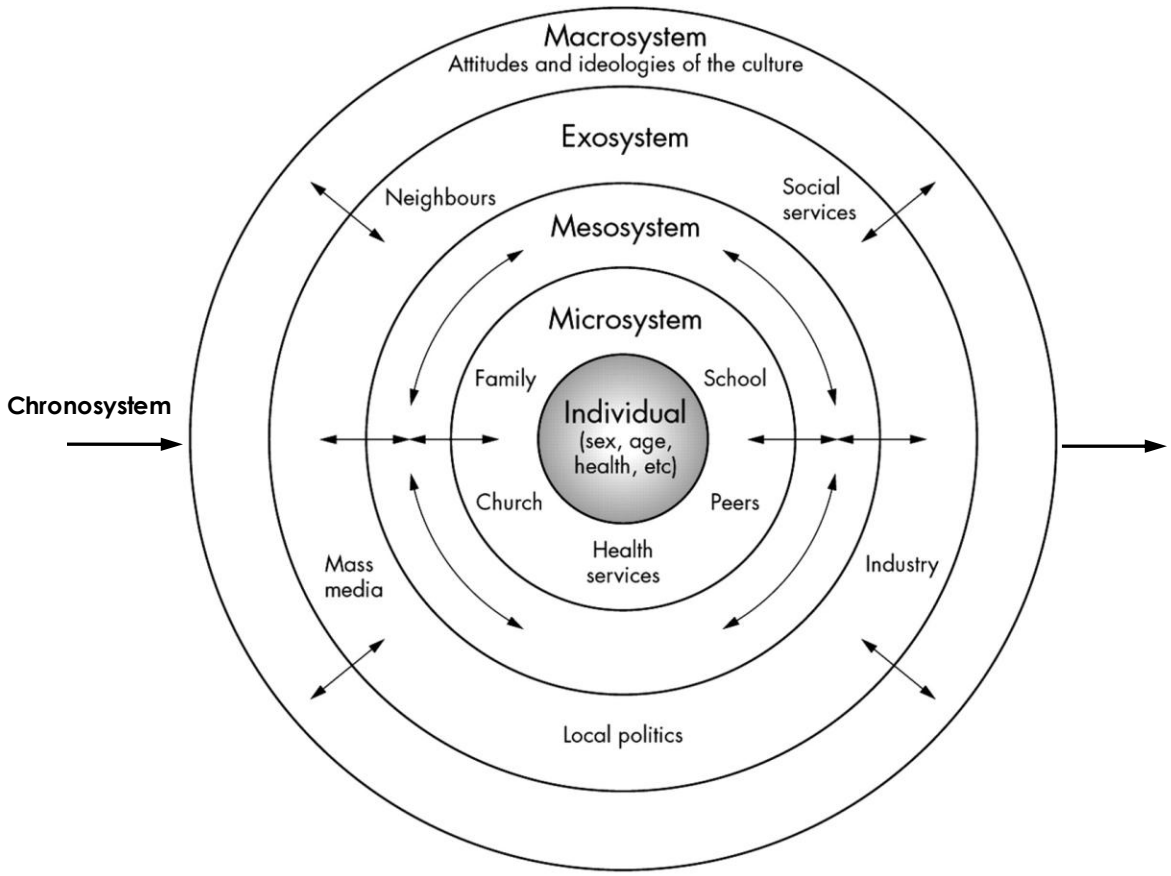

Figure 1: Bronfenbrenner's ecological systems theory (adapted from McLaren & Hawe, 2005).

CHAPTER 2: METHOD

Data and Procedure

Data for this study were obtained from the Educational Longitudinal Study of 2002 (ELS:2002; National Center for Education Statistics, 2004), a longitudinal study of a nationally representative sample of over 17,500 students who were 10th graders in 2002. ELS:2002 was designed to provide trend data about critical transitions experienced by students as they proceed through high school and into young adulthood. Base year data for the study were collected in the spring of 2002 with the target population of schools consisting of regular public schools, including State Education Agency schools and charter schools, as well as Catholic and other private schools throughout the United States.

A two-stage sample selection process was used. First, schools were selected with probability proportion size (PPS), resulting in 1,221 eligible public, Catholic, and other private schools from a population of approximately 27,000 schools in the United States containing 10th grade students. Of the eligible schools, 752 participated in the study, from which approximately 26 students per school were selected in the second stage of sample selection. Of the selected students, 87.3 percent (weighted) participated by completing a student questionnaire.

School- and student-level data were collected, although most focus is placed on the student and the basic unit of analysis. School-level data consisted of an administrator questionnaire, library media center questionnaire, facilities checklist, and the aggregation of student data at the school level, while student-level data (i.e., the principle form of data utilized in the present study) included student questionnaire data, math and reading assessment data, as well as reports from students' parents and teachers. The multilevel focus of this longitudinal

study provides researchers with a comprehensive perspective of the home, school, and community environments that surround and influence individual students. Follow-up data were also collected in 2004 (i.e., student questionnaire and math assessment data), providing the basis for within-cohort comparison by following individual students over time to measure math achievement growth, monitor enrollment status, and record key outcomes such as postsecondary entry and attainment, labor market experiences, and family formation. These outcomes can, in turn, be related to antecedents determined in earlier rounds of data collection (e.g., individual, home, school, and community factors) (Ingels, Pratt, Rogers, Siegel, & Stutts, 2004).

Participants

Questionnaire data were collected from 15,362 of the 17,591 sophomores selected from a national probability sample of 752 schools. Achievement test data were collected for 14,543 of the students. In addition, questionnaire data were also collected from 13,488 parents, and 7,135 teachers. Slightly more than half of the students were male (50.5%). The vast majority of the sample attended public schools (92.4%), while those attending Catholic schools (4.3%) or other private schools (3.4%) accounted for a small portion of the participants. Approximately 50% of the schools were located in suburban areas, while 30% were located in urban areas and about 20% were in rural areas of the United States. Furthermore, the percentages of student participants found in each of the four geographic regions of the United States are as follows: Northeast[1] (18.5%), Midwest[2] (24.1%), South[3] (34.3%), West[4] (23.0%). The ethnic distribution included children of White (60.4%), Hispanic (16.0%), Black (14.4%), Multiracial (4.3%), Asian/Pacific Islander (4.2%), and American Indian/Alaska Native (0.9%) origins. The sample also included

[1] Northeast = CT, ME, MA, NH, NJ, NY, PA, RI, VT.
[2] Midwest = IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI.
[3] South = AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV.
[4] West = AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY.

students who did not speak English as a native language (14.0%). Notably, 41.1 % of mother respondents and 44% of father respondents had only a high school degree, equivalent (e.g., GED), or less. Complete demographic data are presented in Table 1. Participants were representative of national demographics for high school sophomores in 2002; therefore the generalizability of results is valid for the 2002 sophomore cohort throughout the United States. Further generalizations must be made with caution and are limited to populations similar to that of the sampled cohort of students (Ingels, Burns, Charleston, Chen, & Cataldi, 2005).

It is important to note that the above-mentioned demographic information pertains to the national sample of ELS:2002 participants. Cases were included in the analyses of the current study based primarily on the availability of parent and teacher questionnaires, due to the necessity of these measures in determining expectation and congruence levels. More specifically, cases were included only if a parent questionnaire *and* at least one teacher questionnaire were available for that particular student (i.e., mathematics *or* English teacher questionnaire required). Demographic data for the specific sample used in the current study are also presented in Table 1.

Measures

For the purposes of the present study, information from student, parent, and teacher questionnaires was used along with student assessment data. Content specification documents were commissioned for each of the planned achievement tests (i.e., math and reading) as well as for the parent, teacher, and student questionnaires, identifying ELS:2002 research questions and constructs that had to be considered in order to guide instrument development. The content specification documents drew heavily from existing item pools (e.g., National Assessment of Educational Progress [NAEP], National Education Longitudinal Study of 1988 [NELS:88], and Program for International Student Assessment [PISA]) (Ingels et al., 2004).

Following instrument development, field testing was conducted on assessments and questionnaires. Questionnaire field testing involved such analyses as evaluation of item nonresponse, examination of test-retest reliabilities, calculation of scale reliabilities, and examination of correlations between theoretically related measures. For mathematics and reading achievement tests, item parameters were estimated, using both classical and Item Response Theory, to determine the most appropriate items for inclusion in the final forms of the two tests. In addition, psychometric analyses were conducted to examine item difficulty and discrimination, reliability and factor structure, and differential item functioning. Instruments used to collect this data are described in more detail below (Ingels et al., 2004).

Student Questionnaire

The ELS:2002 student questionnaire was a 45-minute self-administered instrument, typically completed by student participants in a group administration setting in the classrooms of their schools. The questionnaire consisted of seven sections: (1) locating information, (2) school experiences and activities, (3) plans for the future, (4) non-English language use, (5) money and work, (6) family, and (7) beliefs and opinions about self. (Ingels et al., 2004) Authors of the present study utilized only student demographic data (i.e., gender and race/ethnicity) from this questionnaire.

Parent and Teacher Questionnaires

The parent questionnaire was to be completed by the parent or guardian most familiar with the (base-year) sophomore's school situation and experience. Only one parent survey was completed per student and the respondent was self-selected. Parent questionnaires were available in English and Spanish, and could be taken via hardcopy or electronic version through computer-assisted telephone interviews. The following five topic areas were addressed by the parent

questionnaire: (1) family background, (2) child's school life, (3) child's family life, (4) their opinions about their child's school, and (5) their aspirations and plans about their child's future. For the purposes of this study, only information from sections (1) and (5) was used (i.e., family socioeconomic status, and parent expectations). It is important to note that socioeconomic status, in this case, was based on five equally weighted, standardized components: father's/guardian's education, mother's/guardian's education, family income, father's/guardian's occupation prestige, and mother's/guardian's occupation prestige (i.e., determined by the 1961 Duncan socioeconomic index) (Ingels et al., 2004).

Teacher questionnaires were to be completed by the English teacher and the mathematics teacher of each ELS:2002 student participant. The teacher questionnaire was designed to examine questions of the quality, equality, and diversity of educational opportunity by obtaining information relevant to teachers' *evaluations of students* and teacher *background information*. For the purposes of the current study, authors utilized only information pertaining to teachers' *evaluation of students* (i.e., assessment of student's school-related behavior, academic performance, educational and career plans, and goals). (Ingels et al., 2004)

Achievement Tests (Mathematics and Reading)

The purpose of the ELS:2002 assessment battery was to provide measures of student achievement in reading and mathematics that can be related to student background variables and educational processes. Test specifications were adapted from frameworks used for NELS:88; math tests contained items in arithmetic, algebra, geometry, data/probability, and advanced topics, while reading tests consisted of reading passages between one paragraph and one page in length with three to six related questions following (Ingels et al., 2004).

Measuring Congruence

Virtually no previous research exists which investigates congruence between aspects of home and school that contribute to the successful educational outcomes of students. Furthermore, few examples for measuring congruence were located within the published research literature in general. For the purposes of this study, authors employed an approach similar to that used by Amos and Weathington (2008) in their investigation of congruence of perceived employee-organization value congruence; that is, calculating differences in ratings on similar measures and using the difference score to represent a "congruence score" of sorts.

In the current study, the congruence score was developed through a two-step process. First, parent and teacher expectations were determined based on their answer to the following question, posed on their respective questionnaires: "How far in school do you expect this student to go?" Answer options were given ranging from "less than high school graduation" to "obtain a Ph.D., M.D., or other advanced degree." Authors coded these answers into three groups representing low expectations (includes options *less than high school graduation* and *high school graduation or GED only*), medium expectations (includes options *attend or complete a 2-year school course in community or vocational school*, and *attend college but not complete a 4-year degree*, and *graduate from college*), and high expectations (includes options *obtain a Master's degree or equivalent* and *obtain a Ph.D., M.D., or other advanced degree*). Recoded answers were represented by values of 1 (low), 2 (medium), or 3 (high). Second, difference scores were calculated manually, in order to represent the level of congruence in expectations. Parents and teachers whose ratings differed by 2 points were coded as 1 (incongruent). Parents and teachers whose ratings differed by 1 point were coded as 2 (low congruence). Finally, parents and teachers whose ratings were identical were coded as 3 (high congruence). It is important to note

that these differences were not determined in a directional manner (e.g. [teacher rating – parent rating] or vice verse), but rather directionality varied so that congruence score was always positive.

Analytic Method

Accounting for Design Effects: Weighting and Taylor Series Approximation Procedures

Prior to completing analyses investigating the above-outlined research questions, certain adjustments were made to account for the effects of the complex sampling design employed by those who collected the ELS:2002 data. The variance of scores for the sample is biased downward due to "clustering." That is, students within schools within sample strata are more homogenous on any characteristic than would be a random sample of students from across the country. Previously conducted studies that have utilized the ELS:2002 data set have noted several approaches to estimating population variances for complex survey designs such as this one (Dalton, Glennie, & Ingels, 2009; Finn, 2006; Ingels et al., 2004). One commonly used technique is the "Taylor Series" approach incorporated in statistical packages such as SUDAAN (Research Triangle Institute, 2001) and AM (Cohen et al., 2003). Taylor-series linearization is an approximate variance method in which an estimate is linearized as a first step. The variance of the linearized estimate is then computed using either an exact or approximate variance formula appropriate for the sample design. Authors of the present study used the AM program for all regression analyses. It accepts sampling weights and performs multiple regression analyses, producing correct standard errors for all effects. Sampling weights were used in all analyses in order to compensate for unequal probabilities of selection of schools and students into the base year sample and to adjust for the fact that not all schools and students selected into the sample actually participated; the resulting weighted sample was representative of the larger population from which participants were drawn.

Analysis of Concurrent Congruence Effects

In order to investigate the *concurrent* effect of congruence in parent and teacher expectations on student achievement levels within the same academic year, 2 separate, yet largely identical, hierarchical regression analyses were conducted in which authors elected in which order variables would be manually entered into both models, before determining significance of variance explained. Base-year Math and English achievement scores were used respectively the dependent (outcome) variable for each regression analysis. In order to control for effects of various demographic variables (i.e., gender, race, and SES) and level of parent and math/English teacher expectations themselves, these were entered into each regression model during steps 1 and 2, prior to investigating the variance explained by the congruence variable in step 3. Finally, in step 4, interaction terms for parent/teacher expectations and congruence were added to the model to investigate the additional variance explained by this interaction. At each step, R^2 change was calculated and tested for significance using an F-test procedure. The relative significance of each variable in the model as a predictor was examined, as well. Table 2 lists the independent variables entered at each step within the regression analysis.

Analysis of Predictive Congruence Effects

In order to investigate the *predictive* effect of congruence in parent and teacher expectations on student achievement levels during the follow-up year, in 2004, a hierarchical regression analysis highly similar to that described above was used in which authors elected in which order variables would be manually entered into the model, before determining significance of variance explained. Follow-up math achievement scores were used as the dependent (outcome) variable. Independent (predictor) variables were entered into the regression analysis in largely the same order described above, with the exception of adding base-year math

achievement scores to the model in step 1. Again, R^2 change was calculated at each step and tested for significance using an F-test procedure, and the relative significance of each variable in the model as a predictor was examined. Table 3 lists the independent variables entered at each step within the regression analysis.

Analysis of Congruence Effects with At-Risk Populations

To examine the third research question previously discussed, authors conducted a one-way Analysis of Variance (ANOVA) procedure with students reported to be in the lowest SES quartile, and therefore traditionally considered to be at-risk for poor academic outcomes. Using the ANOVA procedure, authors investigated between-group differences in follow-up math achievement scores among these students when grouped by level of congruence in parent and teacher expectations. All pairwise comparisons of groups were examined and tested for significance, as well.

Table 1

Demographic Distribution of ELS:2002 Base-year Sophomore Cohort

Characteristic	Current Study Sample Percentage (weighted)	National Sample Percentage (weighted)
Total	100	100
Sex		
Male	50.1	50.5
Female	49.9	49.5
Race/ethnicity		
Asian/Pacific Islander	3.8	4.2
Hispanic/Latino	14.8	15.9
Black	13.1	14.4
White	63.2	60.3
American Indian/ Alaskan Native	0.9	0.9
Multiracial	4.1	4.3
Region		
Northeast	18.4	18.5
Midwest	24.6	24.1
South	35.0	34.3
West	22.0	23.0
Location		
Rural	20.7	19.6
Urban	28.2	30.2
Suburban	51.1	50.3
School		
Public	91.9	92.4
Catholic	4.7	4.3
Other Private	3.4	3.4
Program		
General	37.4	38.6
College-Preparatory/Academic	52.3	50.7
Vocational including technical/business	10.3	10.8

Table 1 (cont.)

Demographic Distribution of ELS:2002 Base-year Sophomore Cohort

Characteristic	Current Study Sample Percentage (weighted)	National Sample Percentage (weighted)
Mother's Education		
Less than high school	12.0	13.2
High school only	27.3	27.9
Some college	35.8	34.6
4-year degree	17.1	16.6
Graduate/professional degree	7.8	7.8
Father's Education		
Less than high school	12.9	13.9
High school only	29.5	30.1
Some college	28.1	27.4
4-year degree	17.2	16.7
Graduate/professional degree	12.4	11.8
Household Income		
$1,000 or less	1.2	1.6
$1,001 - $5,000	1.8	1.8
$5,001 - $10,000	2.2	2.2
$10,001 - $15,000	4.2	4.4
$15,001 - $20,000	4.8	5.0
$20,001 - $25,000	6.2	6.5
$25,001 - $35,000	12.0	12.4
$35,001 - $50,000	19.4	19.6
$50,001 - $75,000	21.1	20.7
$75,001 - $100,000	13.2	12.9
$100,001 - $200,000	10.8	10.1
$200,001 or more	2.7	2.7

Table 2

Order of Variable Entry in First Regression Analysis

Step	Variable
1	Student gender
	Student race
	Student socioeconomic status
2	Parent expectations
	Math/English teacher expectations
3	Parent-Teacher expectation congruence
4	Parent expectations * congruence
	Math/English teacher expectations * congruence

Dependent variable – Base-year (2002) math/English standardized test score

Table 3

Order of Variable Entry in Second Regression Analysis

Step	Independent Variable
1	Student gender
	Student race
	Student socioeconomic status
	Student base-year math standardized test score
2	Parent expectations
	Math teacher expectations
3	Parent-Teacher expectation congruence
4	Parent expectations * congruence
	Math teacher expectations * congruence

Dependent Variable – Follow-up (2004) math standardized test score

CHAPTER 3: RESULTS

Concurrent Effects of Congruence

Mathematics

In the first set of analyses (summarized in Table 4), while controlling for demographic variables, parent and math teacher expectations, expectation congruence, and the interaction between parent and teacher expectations and congruence were used to predict the level of student math achievement within the same school year. The first step included gender, race, and socioeconomic status as predictors, all of which proved to be significant in the model (*p*s < .01). The second step added parent and math teacher expectations as predictors, explaining a significantly larger amount of variance in the outcome variable, math achievement scores (R^2 change = 0.139, $F > 4.61$). Only math teacher expectations were determined to be a significant predictor, however ($p < .01$). The addition of congruence between parent and math teacher expectations as a significant predictor ($p < .01$) in step 3 yielded further significant increase in the amount of variance in math scores explained (R^2change = 0.004, $F > 6.64$). Finally, in step 4, authors added two interaction terms as predictors (i.e., parent expectations * congruence; math teacher expectations * congruence), to investigate the possible explanatory value of these interactions. The addition of these terms resulted in a significant increase in the amount of variance explained by the model (R^2change = 0.001, $F < 4.61$), and the interaction between teacher expectations and overall expectation congruence was found to be a significant predictor ($p < .01$).

Reading

In the second set of analyses (summarized in Table 5), while controlling for demographic variables, parent and English teacher expectations, expectation congruence, and the interaction between parent and teacher expectations and congruence were used to predict the level of student reading achievement within the same school year. As with the previous analysis, the first step included gender, race, and socioeconomic status as predictors, all of which proved to be significant in the model (*p*s < .01); however, it is important to note that gender was not a significant predictor in later models or the full model (shown in Table 5). The second step added parent and English teacher expectations as predictors, explaining a significantly larger amount of variance in the outcome variable, reading achievement scores (R^2 change = 0.113, $F > 4.61$). Again, as with the previous analysis, only teacher expectations were determined to be a significant predictor ($p < .01$). The addition of congruence between parent and English teacher expectations as a significant predictor ($p < .05$) in step 3 did not yield, in this case, a significant increase in the amount of variance in reading scores explained; in fact, the addition of congruence *reduced* the amount of variance explained by the model (R^2change = -0.003). Finally, in step 4, authors again added two interaction terms as predictors (i.e., parent expectations * congruence; English teacher expectations * congruence), to investigate the possible explanatory value of these interactions. The addition of these terms, in this case, resulted in no change in the amount of variance explained by the model (R^2change = 0.000); however, the interaction between teacher expectations and overall expectation congruence was found to be a significant predictor ($p < .01$).

Predictive Effects of Congruence

In the third set of analyses (summarized in Table 6), while controlling for demographic variables and previous standardized test scores, authors sought to use parent and math teacher expectations, expectation congruence, and the interaction between parent and teacher expectations and congruence predict the level of student math achievement two years later. The first step controlled for gender, race, socioeconomic status, and previous math test scores. All of these variables, except for race, proved to be significant predictors in the model (*p*s < .01). The second step added parent and math teacher expectations as predictors, explaining a significantly larger amount of variance in the outcome variable, follow-up math achievement scores (R^2 change = 0.016, $F > 4.61$). As with the concurrent analysis discussed above, only math teacher expectations were determined to be a significant predictor ($p < .01$). The addition of congruence between parent and math teacher expectations as a significant predictor ($p < .05$) in step 3 yielded a decrease in the amount of variance in math scores explained (R^2change = -0.002). Finally, in step 4, two interaction terms were added as predictors (i.e., parent expectations * congruence; math teacher expectations * congruence), resulting in no change in the amount of variance explained by the model (R^2change = 0.000). Furthermore, neither interaction term, in this case, was determined to be a significant predictor.

Importance of Congruence for At-Risk Students

Finally, a one-way analysis of variance (ANOVA) procedure was conducted with students reported to be in the lowest SES quartile, investigating between-group differences in follow-up math achievement scores students were grouped by level of congruence in parent and teacher expectations (summarized in Table 7). Overall, congruence was found to contribute significantly to between-group differences in achievement ($p < .01$). All pairwise comparisons

of groups were examined and tested for significance, as well. Significant differences were found between high/low congruence groups and the incongruence group ($p < .01$); however, differences between the high congruence group and low congruence group were insignificant. It is important to note that this final set of analyses was conducted using a different program which did not incorporate the "Taylor Series" approach to estimating variance, discussed above. Therefore, in order to compensate for the sampling design effects and possibility of underestimated variances, authors used a conservative Type I error rate ($\alpha = .001$) for the significance tests conducted within this final set of analyses.

Table 4

Results of first regression analysis (concurrent – math)

Step	Variable	Standard Error	*t* value	R^2	R^2 change
1	Student Gender	0.224	-7.792**	0.230	0.230**
	Student Race	0.070	15.727**		
	SES	0.175	19.982**		
2	Parent Expectations	0.940	0.835	0.369	0.139**
	Math Teacher Expectations	0.821	5.493**		
3	Congruence - Parent and Math Teacher Exp.	0.997	-3.073**	0.373	0.004**
4	Parent Exp. * P-TM Congruence	0.356	-0.547	0.374	0.001**
	Math Teacher Exp. * P-TM Congruence	0.333	3.484**		

Dependent variable – Base-year (2002) math standardized test score
*significant to the $p < .05$ level
**significant to the $p < .01$ level

Table 5

Results of second regression analysis (concurrent – reading)

Step	Variable	Standard Error	*t* value	R^2	R^2 change
1	Student Gender	0.237	1.619	0.224	0.224**
	Student Race	0.069	14.591**		
	SES	0.181	20.125**		
2	Parent Expectations	0.920	-0.425	0.337	0.113**
	English Teacher Expectations	0.227	27.692**		
3	Congruence - Parent and English Teacher Exp.	0.828	-2.121*	0.334	-0.003
4	Parent Exp. * P-TE Congruence	0.351	0.512	0.334	0.000
	English Teacher Exp. * P-TE Congruence	0.315	4.983**		

Dependent variable – Base-year (2002) reading standardized test score
*significant to the $p < .05$ level
**significant to the $p < .01$ level

Table 6

Results of third regression analysis (predictive – math)

Step	Variable	Standard Error	*t* value	R^2	R^2 change
1	Student Gender	0.135	-4.409**	0.797	0.797**
	Student Race	0.041	0.629		
	SES	0.106	6.528**		
	Base-year math standardized test score	0.010	80.983**		
2	Parent Expectations	0.490	-0.444	0.813	0.016**
	Math Teacher Expectations	0.480	3.293**		
3	Congruence - Parent and Math Teacher Exp.	0.585	-2.163*	0.811	-0.002
4	Parent Exp. * P-TM Congruence	0.197	0.666	0.811	0.000
	Math Teacher Exp. * P-TM Congruence	0.200	1.507		

Dependent variable – Follow-up (2004) math standardized test score
*significant to the $p < .05$ level
**significant to the $p < .01$ level

Table 7

Overall results of ANOVA procedure with students in 1st (lowest) socioeconomic status quartile

	Congruence Between Parent and Math Teacher Expectations			
	Incongruent	Congruent (Low)	Congruent (High)	*p* value
Follow-up (2004)				
math standardized test scores	38.945	45.102	46.332	.000*

Note: To compensate for sampling design and possibility of underestimated variances, conservative Type I error rate, $\alpha = .001$, was used for above significance test.
*significant to the $p < .001$ level

CHAPTER 4: DISCUSSION

The investigation of the importance of parent and teacher expectations and the degree to which their congruence plays a role in improving children's academic outcomes provides valuable information pertaining to the *mesosystemic* influence of the home-school partnership. The present study, in particular, represents a shift from examining the *microsystemic* effects of home and school environments separately toward consideration of specific aspects and processes involved in the partnership between a child's home and school (i.e., congruent thinking and expectations). While much theoretical literature exists contributing to the understanding of systems theory and its implications for education, little empirical research has been done investigating the application of theory to our current educational practices (Reschly & Christenson, 2009). Studies of this type are invaluable and necessary as it has been suggested that partnerships between families and educators that operate at the mesosystemic level (i.e., those which account for the reciprocal interactions between home and school over time, involving engaged relationships, collaborative problem solving, two-way communication, and shared decision making) are the most compelling example of an integration of systems theory with current educational practices (Downer & Meyers, 2010; Reschly & Christenson, 2009).

Although there has been a lack of empirical research done in this area (Reschly & Christenson, 2009), among the studies that have been done there is substantial agreement on the importance of standards and expectations provided by students' families and teachers (Christenson & Peterson, 1998; Fan & Chen, 2001; Hinnant et al., 2009; Mistry et al., 2009). For this reason, we chose to specifically investigate the role played by expectations of the home

and school environments and what influence might be had by *congruence* among these socializing agents. Results indicated that, while congruent parent and teacher expectations contributed to positive student outcomes, the contribution was less significant than that of parent and teacher expectations alone. In addition, within a low SES population, significant differences in achievement were found between congruence groups.

The Role of Congruence and Expectations

Findings of this study largely supported the importance of congruence between home and school environments, with regard to expectations for students' academic success. Congruence between parent and teacher expectations was found to be significantly related to current *and* future measures of student achievement. However, when examiners considered the contribution of congruence to student achievement, while controlling for demographic variables (i.e., gender, race, and SES) and parent and teacher expectations individually, congruence was only found to contribute significantly in the case of concurrent math achievement. These findings may be affected by the somewhat coarse measure of congruence that was used, as will be discussed further in later sections.

It is also important to note that the relationship between congruence in expectations and student achievement was found to be a negative one (i.e., higher congruence related to lower achievement levels, and vice verse), reflecting results that directly contrast with what investigators expected to find based on the literature pertaining to congruence (Christenson & Sheridan, 2001; Fantuzzo et al., 2000; Pianta & Walsh, 1996, etc.). A couple of potential explanations exist for why results indicated a negative relationship between congruence and achievement. First, it is possible that a better measure of congruence would lead different findings. The measure used here did not consider the *level* of parent and/or teacher expectations

(i.e., low, medium, or high); rather, only the level of similarity between the two scores was considered in the computation of the congruence score. Perhaps a measure of congruence that takes into account the level of parent and teacher expectations as well as the congruence between the two would more accurately reflect the actual relationship that exists between these variables. In fact, when examiners investigated the potential interaction between parent or teacher expectations and overall expectation congruence, a significant interaction was found in both concurrent analyses between teacher expectations and congruence. This finding suggests that the relationship between parent a teacher expectations is a more complicated one than previously assumed and one that should be investigated more thoroughly in the future. Secondly, it is highly possible that student perceptions may mediate the effect parent and teacher expectations have on student outcomes; an important consideration that was not investigated within the present set of analyses. For instance, to what extent do congruent expectations benefit a student if the student is not made aware of these expectations? Without question, the unusual finding of an inverse relationship between expectation congruence and student achievement clearly implicates the need for more extensive research in this area.

With regard to expectations, general findings indicate that teacher expectations are more strongly related to student achievement levels. These results support the findings of positive, significant relationships between teacher expectations and student achievement in previously discussed research (Hinnant et al., 2009; Mistry et al., 2009). They also raise questions about the exact relationship between parent expectations and student outcomes. Literature has cited parental aspirations and expectations to be a vital component in producing positive academic outcomes for students (e.g., Christenson & Peterson, 1998; Fan & Chen, 2001); however, our findings suggest that parent expectations may exert a more indirect influence, serving as

somewhat of a mediator between teacher expectations and student outcomes. Interaction analyses suggest that, when congruence is low among teacher and parent expectations (i.e., levels of expectations differ), the effects of low teacher expectations may have less detrimental effects on students' achievement. However, along the same lines, high teacher expectations appear to be less influential when they are paired with low parent expectations. Therefore, it is clear that parental expectations play an important role, although the exact nature of their influence has not yet been determined.

Implications for At-Risk Students

Based on the literature-base supporting the importance of adequate home-school partnerships involving collaboration and congruent thinking and practices for ameliorating risk circumstances for students (e.g., Phelan et al., 1998; Pianta & Walsh, 1996; Reschly & Christenson, 2009; Stormshak et al., 2010; Webster-Stratton & Reid, 2010), authors wished to investigate the influence of expectation congruence within at-risk populations of students, determined by SES based on definitions of risk found in the literature (Finn & Rock, 1997; Pianta & Walsh, 1996). Findings indicated that congruence in parent and teacher expectations accounts for a significant amount of variance in achievement scores for students within low SES households, with different levels of congruence leading to significantly different achievement outcomes. More specifically, any level of congruence in expectations above what was categorized as "incongruence" for the purposes of this study was found to be related to significantly higher student achievement scores. However, authors found no significant difference in achievement when comparing the students grouped in the two highest congruence level groups (i.e., low congruence and high congruence).

Implications

There are several important implications to be drawn from the results of the present study. The first is the evident importance of expectations in relation to levels of achievement for students. Although more research is needed to ascertain the specific relationship between parent and teacher expectations, student perceptions, and student achievement, results of this study make clear the fact that both parent and teacher expectations are meaningful in some way. Interaction analyses exhibited that high expectations on the part of parents *and* teachers lead to the most optimal outcomes for students. While the direction of influence between expectations and achievement cannot be determined by the evidence here, results support the findings of previous research and theory (Christenson et al., 1992; Fan & Chen, 2001; Mistry et al., 2009; Wigfield & Eccles, 2000), implying that maintaining high expectations for students likely provides the best opportunity for students to succeed. Furthermore, although not investigated here, previous research and theoretical literature has discussed the additional importance of *communicating* these high expectations to students (e.g., Christenson & Peterson, 1998; Fan & Chen, 2001).

The second implication highlighted by the findings of the current study involves the need for further research on the concept of congruence and the role it plays in promoting positive student outcomes. Little research was available from which to model the investigation of congruence in the present study, and for this reason, the findings surrounding the congruence variable investigated here are somewhat convoluted and should be interpreted cautiously. However, the strong theoretical base supporting the need for congruence among home and school environments (e.g., Christenson & Sheridan, 2001; Fantuzzo et al., 2000; Pianta & Walsh, 1996) taken together with the significant findings of *some* relationship between expectation congruence

and achievement found here would imply that congruence is a concept that deserves further investigation in the future.

Third, the finding of significant differences in achievement among low SES students when grouped based on the level of congruence between parent and teacher expectations (i.e., incongruent versus low or high congruence) supports the previous research pertaining to potential protective factors for students deemed at-risk for academic failure (Phelan et al., 1998; Pianta & Walsh, 1996; Reschly & Christenson, 2009; Stormshak et al., 2010; Webster-Stratton & Reid, 2010). Furthermore, this finding holds significant weight for families and educators of these students, implying that adequate two-way communication, collaborative problem solving, and other practices thought to promote congruence between home and school can serve as ways to enhance outcomes for those at-risk and close the achievement gap between these and other groups of students.

Limitations and Future Directions

Although the present study contributes to the fields of education and psychology regarding the effects of parent and teacher expectations on student achievement levels, there are several limitations involved. The first issue of importance, as previously mentioned, is that of the congruence measure used in the current study. With little to no previous research from which to model our determination of congruence, authors of this study developed a measure of congruence based on the difference score in parent and teacher responses to identical questions. Unfortunately, the determination of congruence did not take into account the level of parent or teacher expectations, and thus leaves something to be desired. Future investigations should aim to develop a less coarse measure of congruence to be applied to research in this area of study.

Additionally, student perceptions were not considered in the present study, due to the limited responses provided in the large-scale dataset used to conduct the analyses. No adequate measure of student perceptions of parent and teacher expectations could be ascertained and, therefore, this likely-relevant variable was not considered. Future investigations should examine the potential mediating effect student perceptions may have on the relationship between adult expectations and students' academic performance.

In general, results of the current study point to many future directions for research in this area. With the development of improved measures of congruence between home and school environments, specific longitudinal investigations should take place examining the specific processes and practices that lead to high levels of congruence. Moreover, examiners should consider whether these processes differ based on school, student, family, and/or community characteristics, and what strategies can be employed to encourage these practices. In addition, the role played by parent and teacher expectations, whether indirect or direct, should be more carefully investigated to determine the presence or absence of potential mediating or moderating effects. It is clear from the findings of this study that expectations from parents and teachers both play some role; however, for practitioners and families to most adequately provide for improved outcomes, information pertaining to the specific nature of their influence is needed. Congruence among other aspects of the home and school environments, which previous researchers and theorists have suggested to be important, should be examined as well, including, but not limited to, structure of the learning environment, opportunities to learn, support, and climate.

Research pertaining to the *mesosystemic* influences of families and schools poses several challenges. However, the consequences for bypassing such research could be detrimental.

Although theoretical support for the development and maintenance of adequate home-school relationships and partnerships is abundant, empirical research is lacking, leaving practitioners with little guidance in translating theory into practice. This study represents an attempt to move research in the *mesosystemic* direction by investigating the reciprocal effects schools and families may have on each other and how those in-turn effect student outcomes, as well as a call for others to do the same.

REFERENCES

Amos, E. A., & Weathington, B. L. (2008). An Analysis of the Relation Between Employee-Organization Value Congruence and Employee Attitudes. *The Journal of Psychology, 142*(6), 615-631.

Bates, S. L. (2005). Evidence-Based Family-School Interventions with Preschool Children. *School Psychology Quarterly, 20*(4), 352-370.

Bempechat, J. (1998). *Against the Odds: How At-Risk Students Exceed Expectations.* San Francisco: Jossey Bass.

Bergman, L. R., & Magnusson, D. (1997). A person-oriented approach in research on developmental psychopathology. *Development and Psychopathology, 9*(2), 291-319.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*(7), 513-531.

Bronfenbrenner**,** U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*(6), 723-742.

Carlson, C., & Christenson, S. L. (2005). Evidence-Based Parent and Family Interventions in School Psychology: Overview and Procedures. *School Psychology Quarterly, 20*(4), 345-351.

Christenson, S. L. (2004). The Family-School Partnership: An Opportunity to Promote the Learning Competence of All Students. *School Psychology Review, 33*(1), 83-104.

Christenson, S. L., & Anderson, A. R. (2002). Commentary: The Centrality of the Learning Context for Students' Academic Enabler Skills. *School Psychology Review, 31*(3), 378-393.

Christenson, S. L., & Peterson, C. J. (1998). *Family, school, and community influences on children's learning: A literature review.* Minneapolis: All Parents Are Teachers Project (formerly Live & Learn), University of Minnesota Extension Service.

Christenson, S. L., Rounds, T., & Gorney, D. (1992). Family Factors and Student Achievement: An Avenue to Increase Students' Success. *School Psychology Quarterly, 7*(3), 178-206.

Christenson, S. L., & Sheridan, S. M. (2001). *School and families: Creating essential connections for learning.* NY: The Guildford Press.

Cicchetti, D., & Rogosch, F. A. (1996). Equifinality and multifinality in developmental psychopathology. *Development and Psychopathology, 8*(4), 597-600.

Cohen, J., Albright, L., Cohen, D., Hollender, D., Jiang, T., and Chan, T. (2003). *AM Statistical Software v 0.06.01*. Washington, DC: American Institutes for Research (http://am.air.org).

Coleman, J. S. (1987, August-September). Families and Schools. *Educational Researcher, 16*(6), 32-38.

Cox, D. D. (2005). Evidence-based Interventions Using Home-School Collaboration. *School Psychology Quarterly, 20*(4), 473-497.

Dalton, B., Glennie, E., & Ingels, S. J. (2009). *Late High School Dropouts: Characteristics, Experiences, and Changes Across Cohorts.* (NCES 2009-307). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Downer, J. T., & Myers, S. S. (2010). Application of a Developmental/Ecological Model to Family-School Partnerships. In S. L. Christenson & A.L. Reschly (Eds.), *The Handbook of School Family Partnerships* (pp. 3-29). New York, NY: Routledge.

Epstein, J. L., & Hollifield, J. H. (1996). Title I and School-Family-Community Partnerships: Using Research to Realize the Potential. *Journal of Education for Students Placed at Risk, 1*(3), 263-278.

Epstein, J. L., & Dauber, S. L. (1991). School programs and teacher practices of parent involvement in inner-city elementary and middle schools. *The Elementary School Journal, 91*(3), 289-305.

Fan, X., & Chen, M. (2001). Parental Involvement and Student's Academic Achievement: A Meta-Analysis. *Educational Psychology Review, 13*(1), 1-22.

Fantuzzo, J., Tighe, E., & Childs, S. (2000). Family Involvement Questionnaire: A Multivariate Assessment of Family Participation in Early Childhood Education. *Journal of Educational Psychology, 92*(2), 367-376.

Finn, J. D. (2006). *Adult Lives of At-Risk Students: The Roles of Attainment and Engagement in High School.* (NCES 2006-328). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Finn, J. D., & Rock, D. A. (1997). Academic Success Among Students at Risk for School Failure. *Journal of Applied Psychology, 82*(2), 221-234.

Fischel, M., & Ramirez, L. (2005). Evidence-Based Parent Involvement Interventions with School-Aged Children. *School Psychology Quarterly, 20*(4), 371-402.

Ginsburg-Block, M., Manz, P. H., & Mcwayne, C. (2010). Partnering to Foster Achievement in Reading and Mathematics. In S. L. Christenson & A.L. Reschly (Eds.), *The Handbook of School Family Partnerships* (pp. 175-203). New York, NY: Routledge.

Guli, L. A. (2005). Evidence-Based Parent Consultation with School-Related Outcomes. *School Psychology Quarterly, 20*(4), 455-472.

Hallinan, M. T. (2008). Teacher Influences on Students' Attachment to School. *Sociology of Education, 81*(July), 271-283.

Hansen, D. A. (1986). Family-School Articulation: The Effects of Interaction Rule Mismatch. *American Educational Research Journal, 23*(4), 643-659.

Henderson, A. T., & Mapp, K. L. (2002). *A new wave of evidence: The impact of school, family, and community connections on student achievement*. Austin, TX: Southwest Educational Development Laboratory.

Hess, R. D., & Holloway, S. D. (1984). Family and school as educational institutions. In R.D. Parke, R. N. Emde, H. P. McAdoo, & G. P. Sackett (Eds.), *Review of child development research: Vol. 7. The Family* (pp. 179–222). Chicago, IL: University of Chicago Press.

Hinnant, J. B., O'Brien, M., & Ghazarian, S. R. (2009). The Longitudinal Relations of Teacher Expectations to Achievement in the Early School Years. *Journal of Educational Psychology, 101*(3), 662-670.

Hoard, D., & Shepard, K. N. (2005). Parent Education as Parent-Centered Prevention: A Review of School-Related Outcomes. *School Psychology Quarterly, 20*(4), 434-454.

Ingels, S. J., Pratt, D. J., Rogers, J. E., Siegel, P. H., & Stutts, E. S. (2004). *Educational Longitudinal Study of 2002: Base Year Data File User's Manual* (NCES 2004-405). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Ingels, S. J., Burns, L. J., Charleston, S., Chen, X., & Cataldi, E. F. (2005). *A Profile of the American High School Sophomore in 2002: Initial Results From the Base Year of the Education Longitudinal Study of 2002* (NCES 2005-338). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

Kelley, M. J., & Decker, E. O. (2009). The current state of motivation to read among middle school students. *Reading Psychology, 30,* 466-485.

Meece, J. L., Glienke, B. B., & Burg, S. (2006). Gender and motivation. *Journal of School Psychology, 44,* 351-373.

Mistry, R. S., White, E. S., Benner, A. D., & Huynh, V. W. (2009). A Longitudinal Study of Simultaneous Influence of Mothers' and Teachers' Educational Expectations on Low-income Youth's Academic Achievement. *Journal of Youth Adolescence, 38*, 826-838.

Ollendick, T. H. (2005). Evidence-Based Parent and Family Interventions in School Psychology: A Commentary. *School Psychology Quarterly*, *20*(4), 512-517.

Patrikakou, E. P., Weisberg, R. P., Redding, S., & Walberg, H. J. (2005). School-Family Partnerships: Enhancing the Academic, Social, and Emotional Learning of Children. In E. P. Patrikakou, R. P. Weisberg, S. Redding, & H. J. Walberg (Eds.), *School-Family Partnerships for Children's Success* (pp. 1-20). New York, NY: Teachers College Press.

Phelan, P., Davidson, A. L., & Yu, H. C. (1998). *Adolescents' worlds: Negotiating family, peers, and school.* New York, NY: Teachers College Press.

Pianta, R. C., & Walsh, D. J. (1996). *High Risk Children In Schools: Constructing Sustaining Relationships.* New York, NY: Routledge.

Reschly, A. L., & Christenson, S. L. (2009). Moving from 'Context Matters' to Engaged Partnerships with Families. Submitted to *Journal of Educational & Psychological Consultation.*

Reschly, A., Coolong-Chaffin, M. A., Christenson, S. L., & Gutkin, T. B. (2007). Contextual influences and RTI: Critical issues and strategies. In S.R. Jimerson, M.K. Burns & A.M. VanDerHeyden (Eds.), *The Handbook of Response to Intervention: The Science and Practice of Assessment and Intervention* (pp.148-160). New York: Springer.

Research Triangle Institute (2001). *SUDAAN Software for Statistical Analysis of Correlated Data. Release 8.0.* Research Triangle Park, NC: Author.

Reynolds, A. J., & Clements, M. (2005). Parental Involvement and Children's School Success. In E. P. Patrikakou, R. P. Weisberg, S. Redding, & H. J. Walberg (Eds.), *School-Family Partnerships for Children's Success* (pp. 109-128). New York, NY: Teachers College Press.

Reynolds, A. J., & Schlafer, R. J. (2010). Parent Involvement in Early Education. In S. L. Christenson & A.L. Reschly (Eds.), *The Handbook of School Family Partnerships* (pp. 158-174). New York, NY: Routledge.

Sameroff, A. J., & Seifer, R. (1983). Familial Risk and Child Competence. *Child Development*, *54*(5), 1254-1268.

Sheridan, S. M., & Kratochwill, T. R. (2007). *Conjoint Behavioral Consultation: Promoting Family-School Connections and Interventions, Second Edition*. New York, NY: Springer.

Sroufe, L. A., & Rutter, M. (1984). The Domain of Developmental Psychopathology. *Child Development*, *55*(1), 17-29.

Stormshak, E., Dishion, T., & Falkenstien, C. (2010). Family-Centered, School-Based Mental Health Strategies to Reduce Student Behavioral, Emotional, and Academic Risk. In S. L. Christenson & A.L. Reschly (Eds.), *The Handbook of School Family Partnerships* (pp. 228-245). New York, NY: Routledge.

Tollefson, N. (2000). Classroom Applications of Cognitive Theories of Motivation. *Educational Psychology Review, 12*(1), 63-83.

Valdez, C. R., Carlson, C., & Zanger, D. (2005). Evidence-Based Parent Training and Family Interventions for School Behavior Change. *School Psychology Quarterly, 20*(4), 403-433.

Webster-Stratton, C., & Reid, M. J. (2010). A School-Family Partnership: Addressing Multiple Risk Factors to Improve School Readiness and Prevent Conduct Problems in Young Children. In S. L. Christenson & A.L. Reschly (Eds.), *The Handbook of School Family Partnerships* (pp. 204-227). New York, NY: Routledge.

Wigfield, A., & Eccles, J. S. (2000). Expectancy-Value Theory of Achievement Motivation. *Contemporary Educational Psychology, 25,* 68-81.