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SCHOOL SUPPORT, PARENTAL INVOLVEMENT, AND ACADEMIC AND
SOCIAL-EMOTIONAL OUTCOMES FOR ENGLISH LANGUAGE LEARNERS
IN ELEMENTARY SCHOOL

By

Sarah Kate Niehaus
B.S., Centre College, 2006
M.S., University of Kentucky, 2007

A Dissertation
Submitted to the Faculty of the
College of Education and Human Development of the University of Louisville
in Partial Fulfillment of the Requirements
for the Degree of

Doctor of Philosophy

Department of Educational and Counseling Psychology
University of Louisville
Louisville, Kentucky

May 2012

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A Dissertation Approved on

March 5, 2012

by the following Dissertation Committee:

Dr. Jill L. Adelson
Dissertation Co-Chair

Dr. Jeffrey C. Valentine
Dissertation Co-Chair

Dr. Elizabeth B. Patton

Dr. Jenny Bay-Williams

Dr. Kathy Rudasill

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ABSTRACT
SCHOOL SUPPORT, PARENTAL INVOLVEMENT, AND ACADEMIC AND
SOCIAL-EMOTIONAL OUTCOMES FOR ENGLISH LANGUAGE LEARNERS
IN ELEMENTARY SCHOOL

Sarah Kate Niehaus

March 5, 2012

This dissertation study examined the relationships between school support (i.e., student services and family outreach), parental school involvement, and academic and social-emotional outcomes for children who are English Language Learners (ELLs). Specifically, the goals of the study were to: a) determine if higher levels of school support were associated with more positive academic and social-emotional outcomes for ELLs, b) examine the extent to which parental school involvement mediated the relationship between school support and ELL student outcomes, and c) explore how ELLs' perceived academic and social-emotional skills were related to their actual achievement levels. Restricted-use data collected from direct child assessments, children's self-reports, and parent, teacher, and school administrator surveys from the Early Childhood Longitudinal Study-Kindergarten Cohort of 1998 (ECLS-K) were used. The sample included approximately 1,020 third-grade students who were identified in kindergarten as ELLs. Structural equation modeling was used to measure school support and then to analyze the direct and indirect effects of school support on ELL student outcomes, as potentially mediated by parental school involvement. Results showed that higher levels of school support predicted more parental involvement among ELL

families, more parental involvement was associated with fewer social-emotional concerns for ELL children at school, and fewer social-emotional problems were linked to higher achievement scores. ELL students' overall academic self-concept was not significantly related to their academic achievement, but this relationship was stronger when considering domain-specific measures of self-concept and achievement in reading and mathematics. Contrary to expectations, results showed that ELL students had lower achievement and more social-emotional concerns when they attended schools that provided more support services, although there are a variety of possible explanations for these findings that are discussed in the paper. Mediation analyses showed that none of the indirect effects reached conventional levels of statistical significance. Several avenues for future research are discussed as well as implications for policy and practice in terms of how schools can best serve the growing population of ELL students and families.

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CHAPTER 1

OVERVIEW OF DISSERTATION STUDY

This dissertation study used Bronfenbrenner's bioecological model (Bronfenbrenner, 1994; Bronfenbrenner, 2005) to examine the academic and social-emotional development of children who are English Language Learners (ELLs) in the contexts of their school and home environments. ELL children are the fastest growing population in U.S. schools (National Clearinghouse for English Language Acquisition [NCELA], 2008), yet are at risk for a variety of negative academic and social-emotional outcomes in the classroom (e.g., Abedi & Lord, 2001; Ballantyne, Sanderman, & Levy, 2008; National Assessment of Educational Progress [NAEP], 2009a, 2009b; Niehaus & Adelson, 2011; Spomer & Cowen, 2001). Thus, there is a great need for research exploring how schools can more effectively serve this population of students and their families. Descriptive studies have detailed the current state of ELL education in terms of the practices and policies that are implemented in U.S. schools (e.g., Cosentino de Cohen, Deterding, & Clewell, 2005; Zehler et al., 2003). However, little research has been conducted to connect such school-based practices and policies to actual student outcomes, which was the overarching goal of this study.

Specifically, the goals of this dissertation study were threefold. The first purpose was to determine if higher levels of school support predicted more positive academic and social-emotional outcomes for ELL children. Second, the study examined the extent to which parental school involvement mediated the relationship between school support and

ELL student outcomes. A third goal of the study was to determine how ELL children's perceived academic and social-emotional skills related to their actual achievement levels. To address these research questions, data from the Early Childhood Longitudinal Study-Kindergarten Cohort of 1998 (ECLS-K) were used. More specifically, the study drew from ECLS-K restricted-use data collected from direct child assessments, children's self-reports, and parent, teacher, and school administrator surveys. The sample included approximately 1,020 third-grade students who were identified in kindergarten as ELLs. The participants were drawn from across 420 different schools, and the majority of the ELL children (87%) were from Hispanic, Spanish-speaking backgrounds.

Due to the presence of missing data, multiple imputation was used to impute 10 datasets (Enders, 2010), which were used for all analyses. Because the research questions of interest involved the measurement of latent constructs and analysis of causal paths among constructs, structural equation modeling (SEM) was used to measure school support and then to analyze the direct and indirect effects of school support on ELL student outcomes, as potentially mediated by parental school involvement. Analyses of the hybrid model (i.e., a model containing both a measurement model and a structural model) followed the two-step approach recommended by Anderson and Gerbing (1988). Specifically, analyses started with the specification of a conceptually-sound measurement model that provided good model-to-data fit. In the second step, structural paths were estimated to examine the direct and indirect effects among latent constructs. Significance of the indirect effects (i.e., the mediation paths) was examined using the PRODCLIN program (MacKinnon, Fritz, Williams, & Lockwood, 2007), which yields 95% confidence intervals for the distributions of the products of the indirect effects.

Analyses of the structural paths in the model yielded several interesting findings. In particular, parents of ELL students were more involved in their children's education when schools offered more support services for ELL students and families. In turn, parental involvement had a negative direct effect on ELL children's social-emotional problems, such that ELL children reported fewer social and emotional difficulties when their parents were more involved. Mediation analyses showed that none of the indirect effects from school support to ELL student outcomes reached conventional levels of statistical significance; however, results did show that the direct and indirect effects for two pathways (school support to achievement and school support to social-emotional problems) were in opposite directions, which may be consistent with a pattern of competitive mediation (Zhao, Lynch, & Chen, 2010). Specifically, results indicated that school support had a negative direct effect on achievement, but the indirect effect, though non-significant, was positive. Likewise, school support had a positive direct effect on social-emotional problems for ELL children, but the indirect effect, though not quite significant, was negative. These contradictory results are discussed in light of confounding factors at the school level that may account for the findings (e.g., student and teacher demographics), in addition to potential limitations with the measurement of school support in this study and the cross-sectional design of the study.

Regarding the correlations between ELL children's achievement and their perceived academic and social-emotional skills, results showed that there was a significant, negative association between ELL students' social-emotional problems and their academic achievement. Thus, ELLs who reported more difficulties with internalizing behaviors (e.g., sadness, loneliness, anxiety) and externalizing behaviors

(e.g., off-task behaviors, inattention, difficulties with peers) had significantly lower levels of achievement. When examining academic self-concept and achievement, results showed no significant relationship overall. However, when considering academic subject areas (i.e., reading and mathematics) separately, findings indicated that ELL children had significantly higher mathematics achievement when they had higher academic self-concept in mathematics, and the relationship between reading self-concept and reading achievement was nearly significant. Results highlight the importance of considering domain-specific measures of academic self-concept for ELL populations.

Findings from the current study point to several implications for administrators, teachers, and parents and also offer several directions for future research. Regarding practical implications, results indicated that parental involvement is important to the social-emotional wellbeing of ELL children. Thus, schools should focus on fostering parental involvement, and as shown in this study, schools have the potential to do this by offering more support and outreach services to this population of students and families. Results of this study offer tangible strategies that schools can use to better engage ELL parents as partners in their children's education (e.g., by providing interpreters at school meetings and bilingual written communications). Findings from this study also suggest it is important for teachers and parents to pay attention to ELL children's social-emotional wellbeing in the classroom. Coupled with previous research suggesting that ELL children experience significantly more social and emotional concerns as compared to English-proficient children (Niehaus & Adelson, 2011), the negative connection between ELLs' social-emotional problems and their academic achievement suggests that schools need to

consider possible prevention and intervention strategies that may be helpful in alleviating some of these mental health concerns among ELL students.

In terms of future research applications, this study points to both substantive and methodological areas of interest. Substantively, the role of ELL children's social-emotional wellbeing deserves further attention as a possible mediator between language status (ELL or English-proficient) and academic achievement. Methodologically, future studies in this area would benefit from stronger measures of school support (e.g., more information regarding the quality of language support programs), better control of school-level variables (e.g., student and teacher demographics) that may confound measures of school support, and the use of longitudinal designs that would allow researchers to better disentangle causal paths and examine the long-term effects of school and parental support on ELL students' success.

CHAPTER 2

INTRODUCTION AND REVIEW OF THE LITERATURE

Fostering the academic and social-emotional development of every student is the primary concern of teachers, school administrators, and policy-makers, yet a large group of students in U.S. schools are falling behind. Children who are English Language Learners (ELLs) speak a native language other than English, often experience difficulty learning successfully in English-only classrooms, and may benefit from various language support programs (Meyer, Madden, & McGrath, 2004).¹ Between 1990 and 2005, the number of ELL children in the nation's public school systems increased by 152%, making ELLs the fastest growing segment of the school-aged population (NCELA, 2008). In fact, more than five million students in the U.S. are currently identified as ELLs (NCELA, 2010), with Spanish-speaking children comprising the vast majority (77%) of this group (Batalova & McHugh, 2010).

As the ELL population has risen in recent years, more attention has been drawn to the negative academic and social-emotional trajectories that tend to develop within this population of students, beginning in early childhood. Many ELL children face a variety of stressful environmental conditions (e.g., immigration, family separations, poverty, discrimination, and cultural conflicts between home and school) that place them at an

¹ Although the term ELL can include children with limited English proficiency (LEP) and children who have gained considerable proficiency in English, the present study focuses on children who entered kindergarten with limited levels of English proficiency. As such, the terms ELL and LEP are interchangeable in this study, though the term ELL is preferred in order to emphasize a growth-based, rather than a deficiency-based, perspective.

increased risk for a variety of negative student outcomes (Suárez-Orozco, Suárez-Orozco, & Todorova, 2008). Specifically, ELL children tend to display lower levels of academic achievement as compared to English-proficient students, score significantly lower on tests of reading and mathematics proficiency, and are at an increased risk for dropout (Abedi & Lord, 2001; Ballantyne et al., 2008; NAEP, 2009a, 2009b). Even as young elementary school students, children who are ELLs believe that they are less capable of successfully completing academic tasks (LeClair, Doll, Osborn, & Jones, 2009) and report more difficulties with internalizing and externalizing problems as compared to their English-proficient peers (Niehaus & Adelson, 2011). Teacher reports also paint a discouraging picture of the educational experiences of ELL students. Although teachers' assessments are not necessarily accurate indicators of ELL children's skills and should therefore be interpreted with caution (e.g., teachers may misunderstand or be unaware of the sociocultural factors involved in second language acquisition and classroom performance; Lenski, Ehlers-Zavala, Daniel, & Sun-Irminger, 2006), previous research does show that teachers rate ELL children as having lower interpersonal skills (Edl, Jones, & Estell, 2008), higher internalizing problems (Spomer & Cowen, 2001), higher externalizing problems (Dawson & Williams, 2008), fewer adaptive skills (Dowdy, Dever, DiStefano, & Chin, 2011), and more learning problems (Spomer & Cowen, 2001) than their non-ELL peers. As is evidenced by these findings from achievement data, teacher assessments, and students' self-reports, academic failure and school-related problems among ELLs are already a significant problem and are likely to be magnified as this population continues to grow.

Given the risk factors in their environmental contexts (Suárez-Orozco et al., 2008), the academic and social-emotional difficulties that tend to develop (NAEP, 2009a, 2009b, Spomer & Cowen, 2001), and the fact that this population of students is expected to continue rising at a rapid rate (NCELA, 2010), it is clear that additional support is needed for ELL students to help them attain higher levels of success and wellbeing. Furthermore, because the elementary school years provide the foundation for a variety of important academic and behavioral skills (Jennings & DiPrete, 2010; Stipek, Newton, & Chudgar, 2010), these years are a critical developmental period in terms of establishing positive trajectories for children. Given the emphasis that is placed on developing early literacy skills in elementary school, and the fact that ELL children often experience difficulties in early literacy due to language proficiency (Lenski et al., 2006), this time period is particularly important for ELL children.

During the elementary school years, children spend the majority of their time in two settings, school and home, which are the primary environmental contexts influencing children's development (Hofferth & Sandberg, 2001), and thus, the primary environmental contexts where support is most needed. As such, the present study focused on how support from the school environment and support from parents contribute to ELL children's academic success, their social-emotional development, and their self-beliefs in elementary school. Additionally, this study explored the degree to which ELL children's self-beliefs, social-emotional wellbeing, and academic performance are interrelated. The specific goals of the study were to: a) determine if higher levels of school support are associated with more positive academic and social-emotional outcomes for ELLs; b) examine the extent to which parental school involvement mediates the relationship

between school support and ELL student outcomes; and c) determine how ELLs' perceived academic and social-emotional skills are related to their achievement levels.

Theoretical Foundations

Bronfenbrenner's bioecological model provides the theoretical grounding for the current study (Bronfenbrenner, 1994; Bronfenbrenner, 2005). According to this theory, understanding human development is contingent on understanding all of the environmental contexts, or subsystems, in which individuals experience growth. This systemic approach to human development is illustrated in two fundamental concepts that form the foundation for Bronfenbrenner's model. First, the theory postulates that human development occurs through reciprocal interactions between a human organism and the people, resources, activities, and opportunities in his or her immediate environment. These complex and evolving interactions between an individual and his or her surrounding environment are referred to as proximal processes in Bronfenbrenner's theory. For children, such proximal processes include relationships with caregivers and family, friendships with peers, and interactions with teachers and classmates at school. Second, Bronfenbrenner's theory is based on the idea that the nature and strength of proximal processes are determined by the characteristics of the individual, the environments in which growth is occurring, and the particular developmental outcome being examined. Thus, there are a variety of variables both within an individual and in his or her environmental systems that jointly shape each person's unique developmental pathway.

To better understand and identify the various environmental contexts that can influence development, including learning, Bronfenbrenner proposed five primary

subsystems that provide the structure for his bioecological model (Bronfenbrenner, 1994; Bronfenbrenner, 2005). These five subsystems are nested within each other and move from the most immediate environment affecting development (i.e., the microsystem) to the larger social and cultural environment in which individuals live (i.e., the macrosystem). The microsystem is the first subsystem and refers to an individual's daily activities and relationships in his or her immediate environment. Children's homes, schools, and peer groups are common examples of microsystems. At the next level is the mesosystem, which is comprised of two microsystems that are linked. One of the most important mesosystems for children is the connection between their home and school environments (e.g., parental school involvement and parent-teacher communication). The third level of the bioecological model is referred to as the exosystem. The exosystem is similar to the mesosystem in that it links two or more environments, but in this case, one of the environments does not directly affect the individual. A typical example would be the relationship between a parent's workplace and a child's home environment (e.g., if a parent is experiencing high levels of stress at work, this may affect the child indirectly via changes in the parent's behavior at home). The macrosystem is the broadest developmental system and consists of cultural and societal influences on an individual, such as the economy or the media. Finally, Bronfenbrenner incorporated another dimension to this model (i.e., the chronosystem) that crosses all four subsystems and describes change over time both in the individual and in historical events.

Given the importance of considering children's environmental contexts when examining developmental outcomes (Bronfenbrenner, 1994; Bronfenbrenner, 2005), the present study used Bronfenbrenner's model as a lens for understanding the academic and

social-emotional growth of ELL children during their elementary years. Specifically, this study focused on two particularly influential subsystems for children at both the microsystem level (i.e., the school) and the mesosystem level (i.e., the home-school connection). As such, this study took a systemic approach to examining potential risk and protective factors for ELL children in two developmental contexts highly important to students' performance and wellbeing.

Schools as Microsystems

For the general population of school-aged children, past research has consistently shown that the classroom and school environments are important to students' academic and behavioral outcomes (Hamre & Pianta, 2005; Patrick, Ryan, & Kaplan, 2007; Rimm-Kaufman, 2006; Schaps, 2005). For example, Hamre and Pianta (2005) found that both instructional support (i.e., literacy instruction, evaluative feedback, instructional conversation) and emotional support (i.e., teacher sensitivity, positive climate, classroom management) at school serve as protective factors for students who are at risk for academic failure during the elementary school years. A supportive school environment may be particularly important for ELL children because these students often face a variety of risk factors in their environmental contexts outside of school (e.g., Suárez-Orozco et al., 2008).

Student support services. Given the negative academic outcomes consistently documented for ELL children (Abedi, 2002; Abedi & Lord, 2001; Ballantyne et al., 2008; NAEP, 2009a, 2009b), the question arises as to what school-based services, practices, and policies are currently being implemented in the education of ELLs, the relationships between these services and students' academic and social-emotional outcomes, and how

these services can be improved to serve ELLs more effectively. Title I and Title III of the No Child Left Behind Act of 2002 hold schools accountable for the academic performance of ELL children and require schools to provide a high-quality education to these students to help them attain English proficiency and meet high academic standards in the core content areas (No Child Left Behind [NCLB], 2002). However, NCLB allows schools flexibility in determining how to best support the academic development of ELLs, and consequently, there is significant variability in the types of student services that are offered to ELLs across different states and schools (Zehler et al., 2003). Within the past decade, two large, national studies (Cosentino de Cohen et al., 2005; Zehler et al., 2003) have been conducted to document the current state of ELL education in U.S. public schools and have identified many areas of concern.

First, Cosentino de Cohen et al. (2005) found that 70% of ELLs are enrolled in only 10% of the nation's schools. These schools with high concentrations of ELL students (i.e., ELLs comprise more than 25% of the student body) tend to be in urban areas with high populations of ethnic minority students and students living in poverty. Additionally, high-ELL schools have lower levels of parental school involvement, larger percentages of new teachers, and higher rates of uncertified teachers. Other research has shown that ELLs are more likely to attend "less-than-optimal" schools that have increased suspension rates, larger school enrollments, and higher teacher-to-student ratios as compared to state averages (Suárez-Orozco et al., 2008). Although ELL students attending high-ELL schools face some disadvantages in their school environments, they also have access to more support services at school, which may actually provide them with some advantages over ELL children attending low-ELL schools (Cosentino de

Cohen et al., 2005). Specifically, schools with high concentrations of ELL students are more likely to have standardized procedures for identifying ELL children and are more likely to provide Title I services, specialized language instruction, and academic support programs because they have larger proportions of students in need of such services. High-ELL schools also have more teachers who are certified in English as a second language (ESL)/bilingual education, and their teachers report more training in teaching ELL children as compared to teachers in low-ELL schools. This means that a large number of ELL children (nearly one-third) are attending schools with few support services and little teacher training in instructing ELL children, which Cosentino de Cohen et al. identified as a serious concern in ELL education.

Cosentino de Cohen et al.'s (2005) study painted a complicated picture of the educational experiences of ELL children in that there are negative and positive implications for ELL children in both high- and low-ELL schools. However, the study conducted by Cosentino de Cohen et al. was descriptive in nature and provided no data linking school-based services for ELL children to students' educational outcomes. Thus, we do not know how the presence or absence of support services is linked with student success. With the exception of the large literature base supporting specialized language instruction for ELL children (e.g., Collier & Thomas, 2004; Lindholm-Leary & Block, 2010; Rolstad, Mahoney, & Glass, 2005a; Rolstad, Mahoney, & Glass, 2005b; Thomas & Collier, 2002), little research has examined the effects of other school support services on ELL student outcomes. As such, we do not fully understand the advantages and disadvantages that ELL students may face in relation to the resources and support mechanisms that are available in their school environments.

A second study, conducted by Zehler et al. (2003), identified four alarming trends in ELL education: a) ELL students are increasingly being taught in English only (i.e., native language instruction is decreasing); b) there are larger proportions of ELL students receiving no language support services; c) ELL instructional programs are less aligned with state standards than programs for English-proficient students; and d) teachers who work with at least three ELL students report little training (i.e., a median of four hours over the past five years) in teaching this population of students. These trends are not surprising when considering the larger sociopolitical context of ELL education in the last several years. Specifically, several states (e.g., California, Arizona, and Massachusetts) have mandated English-only instruction in their schools, despite extensive research evidence suggesting that ELL children experience more long-term academic success when taught in their native language and English (i.e., using a bilingual education approach; Collier & Thomas, 2004; Crawford, 1997; Rolstad et al., 2005a; Rolstad et al., 2005b). Further complicating these concerning trends, schools typically do not keep adequate records of ELL students and, thus, do a poor job tracking their outcomes over time (Zehler et al., 2003). Although it is helpful to know such descriptive data on the nature of ELL education in today's schools in order to identify potential problems, Zehler et al. emphasized that research needs to be conducted to better understand the resources that can help ELLs attain higher levels of academic success. In other words, research is needed to connect school support services to actual ELL student outcomes, which is a primary goal of the current study.

Family support services. We know from prior research that meeting the needs of students also involves meeting the needs of their families and building strong home-

school connections (Arias & Morillo-Campbell, 2008). In fact, Title I (Section 1118) of NCLB requires schools using Title I federal funds to implement policies, programs, and activities to foster parental involvement and requires schools to spend a portion of their funding on parent outreach (NCLB, 2002). It is important to note, however, that Section 1118 makes no provisions for the enforcement of these parent involvement policies, meaning that there are few, if any, consequences if schools are found to be in non-compliance (National Coalition for Parent Involvement in Education, 2004). Title I also makes special mention of involving parents with limited English proficiency and requires schools to provide information to these parents in a form and language that they can understand (to the extent that these practices are possible). So how are schools that serve ELL students performing in this area? Cosentino de Cohen et al. (2005) found that 86% of U.S. schools provide interpreters for ELL parents, 73% provide translated documents, 69% engage in ELL parent outreach activities, and 48% have services to support parent involvement (e.g., transportation or child care). However, there are significant differences in parental outreach and support between schools serving high-ELL populations (i.e., ELLs comprise more than 25% of the student body) and schools serving low-ELL populations (i.e., less than 25%). High-ELL schools are more likely than low-ELL schools to provide interpreters (96% versus 83%), translated documents (93% versus 68%), parent outreach activities (85% versus 65%), and other services to support involvement (66% versus 51%). Although there are differences between schools in the amount of parent support services provided, little research has examined how such services are related to parents' actual participation in their children's education or how such services are related to student outcomes. Thus, there are many unanswered questions

about the effectiveness of family outreach services in enhancing the educational and personal success of ELL students.

Comprehensive school support for ELLs. Numerous studies have examined the relationship between one specific type of school support (i.e., specialized language instruction) and academic outcomes among ELLs (e.g., Collier & Thomas, 2004; Lindholm-Leary & Block, 2010; Rolstad et al., 2005a; Rolstad et al., 2005b; Thomas & Collier, 2002). Such research indicates that ELL students who receive specialized language instruction (e.g., ESL, bilingual education) have higher academic achievement than ELL students who receive no language support, and students who receive bilingual education services (i.e., instruction in their native language and English) fare better than students who receive English-only instruction (i.e., immersion approaches with no native language instruction). However, only one previous study has looked at the broader role of school support in promoting positive academic outcomes among ELLs (Han & Bridglall, 2009). Specifically, Han and Bridglall (2009) looked at overall school support in elementary school (kindergarten through fifth grade) as measured by ESL instruction practices, Title I services, family outreach services, school resources, student learning environment, teaching environment, and the work climate for faculty and staff at the school. They found that ELL students made greater gains in reading achievement when there was more availability of ESL aides at school and that ELL students made greater gains in mathematics achievement when there were more Title I support services and more family outreach services. Although Han and Bridglall did not assess teachers' certification or training in instructing ELL students, they did find that students made faster gains in reading and mathematics when there were a higher number of teachers in

the school who spoke another language in addition to English. Particularly in the area of mathematics achievement, ELLs attending schools with more school support were able to close the achievement gap with English-proficient peers more quickly than ELLs in less supportive school environments. Interestingly, school-level factors, as a whole, accounted for at least one-third of the achievement differences observed between ELLs and English-proficient students in both reading and mathematics, as tracked from kindergarten to fifth grade. As evidenced by this recent study, malleable factors within the school environment can play a powerful role in the academic trajectories of ELL students.

Although Han and Bridglall's (2009) study provided an insightful examination of the connection between school support and ELL student achievement, this study was introductory in nature and left many questions unanswered. First of all, students' academic achievement (i.e., standardized test scores) was the only student outcome examined in this study. Neither social-emotional outcomes (e.g., internalizing and externalizing behaviors) nor self-beliefs (e.g., academic self-concept) were considered in this study, both of which are important correlates of academic achievement (e.g., Hamre & Pianta, 2005; Normandeau & Guay, 1998; Valentine, DuBois, & Cooper, 2004). Thus, there are other indicators of student success and wellbeing that have not been explored within the ELL population. In addition, Han and Bridglall did not consider the relationship between school support and parental school involvement, which is another variable linked with student achievement in elementary school (Arias & Morillo-Campbell, 2008). Given the emphasis on parent and family outreach when considering the idea of school support for students (Cosentino de Cohen et al., 2005), it seems logical to examine the extent to which support services are associated with parents' actual levels

of school involvement. Thus, further exploration of the links between school support, parental school involvement, and a broad variety of student outcomes (in addition to test scores) is warranted among the growing population of ELL students.

The Home-School Mesosystem

General school-aged population. When considering children's academic and social-emotional outcomes, it is important to examine the support that they receive in their home environments in addition to that received at school. One key element of support for elementary school children is the extent to which their parents are involved in their education (El Nokali, Bachman, & Votruba-Drzal, 2010). Fostering relationships between teachers and parents and between the home and school environments has been strongly promoted by policy-makers (NCLB, 2002), educators (Borba, 2009), and researchers (Arias & Morillo-Campbell, 2008). Consequently, there is a large body of literature that has examined the associations between parental involvement and important school-related outcomes for children (Fan & Chen, 2001; Nye, Turner, & Schwartz, 2006). In this literature base, parental involvement is typically defined as "parents' behaviors in home and school settings meant to support their children's educational progress" (El Nokali et al., 2010, p. 989). Examinations of parental involvement using this definitional framework have tended to show that parental involvement is positively related to academic achievement and learning-related skills during the elementary school years (e.g., Dearing, Kreider, Simpkins, & Weiss, 2006; Izzo, Weissberg, Kaspro, & Fendrich, 1999; Miedel & Reynolds, 1999). Specifically, children with highly involved parents tend to score higher on standardized achievement tests, earn higher grades, have

fewer school absences, display higher school engagement, and have lower grade retention rates.

In recent years, several researchers have also undertaken meta-analyses in order to synthesize findings across the large number of studies in this field. Fan and Chen's (2001) meta-analysis included studies with a broad range of student ages (preschool to grade 12) and found a moderate, positive relationship ($r = .25$) between parental involvement and overall academic performance. However, the studies in this review were all correlational in nature, limiting the extent to which causal claims could be supported regarding the link between parental involvement and student achievement. In an effort to conduct a more methodologically rigorous evaluation of the effects of parental involvement on academic achievement, Nye et al. (2006) performed a meta-analysis of randomized experiments (RCTs) examining the effects of parental involvement intervention programs on elementary school children's academic success and found that parental involvement had a moderate, positive effect ($d = .45$) on overall academic performance. Thus, meta-analytic work in this field has supported the idea that parents' involvement in education is indeed important to children's academic and school-related outcomes.

Although the majority of studies investigating parental involvement and student outcomes have tended to focus on academic achievement as the primary outcome of interest (Fan & Chen, 2001; Nye et al., 2006), there is a growing body of literature exploring relationships between parental involvement and children's social-emotional outcomes during the preschool and elementary school years (e.g., El Nokali et al., 2010; Fantuzzo, McWayne, & Perry, 2004; Rimm-Kaufman, Pianta, Cox, & Bradley, 2003;

Supplee, Shaw, Hailstones, & Hartman, 2004). Although the connection between parental involvement and social-emotional outcomes may not seem as direct as the relationship between parental involvement and academic outcomes, El Nokali et al. (2010) emphasized that parents' interactions with their children's teachers are often focused on issues related to social functioning and behavioral problems, in addition to academics. Thus, parental involvement in their children's education may enhance social-emotional skills to the extent that parents are working together with teachers and schools to address such concerns in the classroom and at home. Indeed, some recent research suggests that parental involvement may be more strongly related to children's social-emotional skills than their academic skills (e.g., El Nokali et al., 2010; Powell, Son, File, & San Juan, 2010). Higher levels of parental involvement are linked to more advanced social skills, fewer behavioral problems, and better social-emotional adjustment among children (El Nokali et al., 2010; Iruka, Winn, Kingsley, & Orthodoxou, 2011; Powell et al., 2010). Additionally, third-grade children whose parents are more involved in their education tend to have more positive relationships with their teachers (Wyrick & Rudasill, 2009). Interestingly, Wyrick and Rudasill (2009) found that the association between parental involvement and student-teacher relationship quality was stronger for children from low-income homes, demonstrating the importance of parental involvement for students from more disadvantaged socioeconomic backgrounds.

ELL population. Although higher levels of parental school involvement are also linked to increased reading and mathematics achievement for ELL children during the elementary school years (Han & Bridglall, 2009), previous research has shown that families of ELL children tend to communicate less often with teachers (Harper &

Pelletier, 2010) and participate in fewer school activities (Griffith, 1998) as compared to English first language families. As such, parental involvement has been identified as a primary area of concern in the education of ELL students (Arias & Morillo-Campbell, 2008). However, when looking at parental involvement within the ELL population, it is important to consider the variety of sociocultural factors involved, which can often serve as barriers that prevent ELL families from being active participants in their children's educational pursuits (Arias & Morillo-Campbell, 2008). Factors related to the school environment, cultural norms, and parental characteristics all contribute to the disconnect that often exists between ELL families and their children's schools.

Limited English proficiency, unfamiliarity with the educational system in the United States, and logistical problems, such as work schedules, child care, and transportation, are some of the parental factors that can make it difficult for ELL families to build relationships with their children's schools (Arias & Morillo-Campbell, 2008). Recent research has shown that 68% of ELL children in elementary school come from low-income homes, which is nearly twice as high as the rate for English-proficient children (Capps et al., 2005). Additionally, nearly half of ELL children have parents with less than a high school degree, and nearly a quarter have parents with less than a ninth-grade education. As such, many parents of ELL children may not have access to the financial and educational resources to help their children succeed in school (Capps et al., 2005). Low levels of educational attainment among parents also means that some ELL parents may not be able to read and write in English or in their native language, which impedes communication with teachers and school staff (Arias & Morillo-Campbell, 2008).

Regarding the cultural factors that are involved, there are often divergent cultural norms and values between the school environment and the home environment of ELL families (Arias & Morillo-Campbell, 2008). Specifically, ELL parents and schools may hold different ideas regarding the roles and expectations of parents in the educational process. Many parents of ELL children view teachers and administrators as authority figures and as the experts on their children's learning. Consequently, they may be hesitant to take on tasks that they view as the teacher's area of expertise, and many ELL parents feel uncomfortable questioning teachers or school decisions for fear of being disrespectful (Sue & Sue, 2008). These cultural differences between home and school can contribute to the difficulties that ELL families experience in navigating U.S. schools (Arias & Morillo-Campbell, 2008).

Perhaps most important to mention, many of the barriers for ELL families are related to the school environment. One particular problem facing ELL parents is the manner in which they are perceived by teachers and school staff (Arias & Morillo-Campbell, 2008). Oftentimes, school staff attribute a lack of parental involvement to a lack of parental interest or assume that parents place little value on education (Finders & Lewis, 1994). In fact, quite the opposite typically is true for ELL families. Past research indicates that parents of ELL students have consistently high aspirations for their children's education throughout elementary school and believe that education is highly important for their children (Goldenberg, Gallimore, Reese, & Garnier, 2001). Thus, the parents and families of ELL children can be strong allies in their children's education if teachers and administrators can find ways to think about parent involvement as a reciprocal process (i.e., not only how ELL families can help the school but also how the

school can help ELL families; Arias & Morillo-Campbell, 2008). Rather than focusing on the shortcomings of ELL families, schools would benefit from building on their cultural strengths (Espinosa, 1997). For example, many ELL families come from collectivistic cultural backgrounds (Sue & Sue, 2008) where interdependent relationships, commitment to family, and community ties are critical to wellbeing. Schools can build on this cultural capital by fostering a warm and caring community within the school, by incorporating community learning into the curriculum, and also by involving extended family in students' educational activities (Arias & Morillo-Campbell, 2008).

Arias and Morillo-Campbell (2008) and Zehler et al. (2008) offered several recommendations to help capitalize on the strengths of ELL families and build stronger connections between these families and their children's schools: providing interpreters at school events, assigning a home-school liaison for ELL families, encouraging home visits by teachers, providing bilingual newsletters, offering a multilingual telephone line for homework information, scheduling monthly meetings at a community center, providing child care and transportation to facilitate involvement, and offering a variety of educational classes to parents (e.g., ESL, literacy development, and information about how to navigate U.S. schools). Teacher training was also recommended with an emphasis on enhancing cross-cultural sensitivity and learning how to use the knowledge and skills that ELL families have to offer. Due to the importance of school practices that value ELL families and promote their involvement, the present study focused on how specific support practices for families contributed to ELL children's academic and social-emotional outcomes and also examined the extent to which parental involvement mediated the relationship between school support and student outcomes.

Important Student Outcomes

The majority of research examining ELL children's educational experiences has tended to focus on academic achievement (e.g., Abedi, 2002; Abedi & Lord, 2001; Han & Bridglall, 2009). However, we know from previous research that a variety of other student characteristics are important to educational success, two of the most important being students' self-beliefs (Valentine et al., 2004) and social-emotional skills (Jennings & DiPrete, 2010). Therefore, the present study expanded upon the student outcomes that have generally received the most attention in the ELL literature in order to provide a more comprehensive picture of ELL children's strengths and challenges in the classroom. In particular, this study focused on students' self-concept (i.e., an individual's perception of himself or herself based on interactions with the environment and personal interpretation of experiences; Shavelson, Hubner, & Stanton, 1976). Because self-concept is a multifaceted and multidimensional construct (Shavelson et al., 1976), students' self-perceptions were examined in both the academic and social-emotional domains.

Academic self-concept. Previous research has consistently shown that children's academic self-beliefs and self-perceptions contribute to their educational success (e.g., Guay, Marsh, & Boivin, 2003; Marsh & Martin, 2011; Valentine et al., 2004). Even in elementary school, students with more positive beliefs about their academic abilities tend to have higher levels of school performance. Marsh and colleagues (Marsh, 1990a; Marsh, Byrne, & Yeung, 1999; Marsh & Craven, 2006; Marsh & Martin, 2011) proposed the reciprocal-effects model to describe the relationship between academic self-concept (i.e., students' beliefs about their academic abilities) and achievement. The reciprocal-effects model is based on the idea that academic self-concept and achievement share a

reciprocal relationship wherein higher levels of self-concept contribute to higher achievement, and higher achievement contributes to more positive self-concept. This model has been well supported in research studies with the general school-aged population (Marsh, 1990a; Marsh et al., 1999; Marsh & Craven, 2006; Marsh & Martin, 2011) and also with elementary school children (Guay, Marsh, & Boivin, 2003), suggesting that academic self-concept and school performance are mutually reinforcing even in the early educational years.

The few studies that have examined academic self-concept among ELL children have yielded results that are both interesting and confusing. Different studies have found conflicting results, which is likely due to the fact that each study has examined a different type of self-belief, making it difficult to draw comparisons across studies. For example, one study focused on academic self-esteem (i.e., judgments about one's worth or value as a student) and found that ELL children rated themselves more highly than did non-ELL children from kindergarten to fifth grade (Rodriguez, Ringler, O'Neal, & Bunn, 2009). Other studies have examined academic self-efficacy (i.e., beliefs about one's capabilities to successfully accomplish academic tasks). Of these studies, one found that ELLs had lower academic self-efficacy than their English-proficient peers in elementary school (LeClair et al., 2009), while another showed no differences in academic self-efficacy between ELL and non-ELL elementary schoolers (Rodriguez et al., 2009). A recent study by Niehaus and Adelson (2011), using the same nationally representative sample as in the current study, showed that ELL children had higher academic self-concept than English-proficient children in mathematics and general academics but not in reading. Thus, despite having significantly lower levels of achievement as compared to English-

proficient children (NAEP, 2009a, 2009b), ELLs seem to have higher levels of self-concept in some academic areas (Niehaus & Adelson, 2011). As evidenced by these previous research findings, the relationship between academic self-beliefs and achievement for ELLs is not well understood, and therefore, determining how strongly academic self-concept was correlated with ELL student achievement was an additional benefit of the current study.

Social-emotional problems. Children's social-emotional skills are also important to their academic development. Children who have more positive relationships with peers, fewer behavioral problems, and more advanced social skills tend to have higher levels of school performance (Baker, 2006; Hamre & Pianta, 2005; Ladd, Birch, & Buhs, 1999). Although self-reports have not been employed as often as teacher or parent reports when examining students' social-emotional wellbeing in elementary school, previous research suggests that children's self-reports can offer valuable insights into the nature of their relationships and emotional concerns. For example, elementary school students' perceived social competence is positively correlated with teacher ratings of academic and social skills and negatively correlated with teacher-rated behavioral problems (DiPerna & Volpe, 2005). Children's self-reports can also provide additional information regarding intrapersonal experiences that are not accessible via parent or teacher surveys (Tepper et al., 2008).

Little is known about how ELL children perceive their social and emotional skills. In fact, to the author's knowledge, only one previous study has examined how the self-reported social-emotional skills of ELL children compare to those of English-proficient children. In this study, Niehaus and Adelson (2011) found that ELL children reported

equally positive peer relationships as compared to non-ELL children but reported significantly more problems with internalizing and externalizing behaviors. Specifically, ELL children's self-reported externalizing problems were 6% higher than non-ELL children's, and their self-reported internalizing problems were 14% higher than non-ELL children's. This study showed that ELL children tend to experience more difficulties with staying on task and following directions as compared to English-proficient peers and experience higher levels of worry, anxiety, sadness, and loneliness as compared to non-ELL peers at school. Although this has not been investigated in previous studies, it is possible that the number of ELL children in the school (i.e., whether it is a high- or low-ELL school) could be associated with ELL children's social and emotional development. Given that ELL children tend to group together based on shared language backgrounds, cultural backgrounds, and/or countries of origin (Suárez-Orozco et al., 2008), it could be that ELL children who attend schools with higher ELL populations may report better social-emotional outcomes because they are surrounded by more students who are similar to them.

Because limited proficiency in English is an acculturative stressor for children (Dawson & Williams, 2008), many difficulties associated with learning a second language can contribute to internalizing and externalizing problems in the classroom (Rhodes, Ochoa, & Ortiz, 2005). For example, ELL children may have trouble paying attention or following the teacher's directions at school because they do not understand what the teacher is asking them to do. Similarly, ELL students' lack of English fluency may contribute to higher levels of worry and anxiety about schoolwork and may also contribute to feelings of isolation from English-speaking peers (Suárez-Orozco et al.,

2008). Although a recent study suggests that ELLs experience higher rates of internalizing and externalizing problems (Niehaus & Adelson, 2011), we do not know how these difficulties may contribute to classroom performance. Based on previous research revealing negative associations between achievement and internalizing and externalizing problems among the general school-aged population (e.g., Baker, 2006; Hamre & Pianta, 2005; Normandeau & Guay, 1998), it is likely that ELL children's social-emotional difficulties are related to their academic difficulties in the classroom. This question was examined in the present study to provide much needed information on the relationship between social-emotional wellbeing and achievement for ELLs.

Purpose of the Current Study

The present study focused on three intersecting problems currently facing ELL children in U.S. schools: a) a lack of understanding regarding how schools can best support this population of students (Cosentino de Cohen et al., 2005; Zehler et al., 2003), b) a variety of language and cultural barriers that limit ELL parents' involvement in their children's education (Arias & Morillo-Campbell, 2008), and c) a multitude of environmental stressors that place ELL children at risk for academic difficulties and negative social-emotional outcomes during the formative elementary school years (NAEP, 2009a, 2009b; Niehaus & Adelson, 2011; Spomer & Cowen, 2001). This study focused on ELL children in third grade for two primary reasons. First of all, the elementary school years are a critical time period for developing important academic and behavioral skills in the classroom (e.g., Jennings & DiPrete, 2010; Stipek et al., 2010). Specifically, the elementary years establish the foundation for literacy skills (Verhoeven, van Leeuwe, & Vermeer, 2011), understanding of mathematical concepts (Jordan,

Glutting, & Ramineni, 2010), basic reasoning abilities that contribute to later scientific thinking (Zimmerman, 2007), and important self-regulation skills (e.g., paying attention and inhibiting inappropriate behaviors; McClelland & Cameron, 2011). Secondly, due to the focus on children's self-perceptions in this study, ELLs needed to be old enough to reliably reflect upon and evaluate their skills. Because younger elementary school children tend to report overly optimistic self-beliefs and have difficulty differentiating their strengths from their weaknesses (Marsh & Craven, 1997), the self-reports of older elementary school children (i.e., third grade and above) are more reliable and more strongly correlated with parent and teacher reports as compared to younger elementary school children (i.e., first- and second-graders; Wigfield et al., 1997). Thus, third-graders were chosen as the ideal age group for this study in terms of obtaining the most accurate representation of children's self-reported skills, while still gathering information during a critical early period of development.

Given the focus on early development within the elementary school years, the overarching objective of the present study was to gain a better understanding of how schools can most effectively serve and support the growing population of ELL students and their families. In line with this objective, the current study examined the relationships between school support (i.e., student services and family outreach), parental school involvement, and academic and social-emotional outcomes for ELL children in elementary school. A secondary goal of this study was to determine how self-beliefs (in both the academic and social-emotional domains) were associated with ELL children's achievement. The following research questions were addressed:

1. Is a higher level of school support for ELLs and their families associated with more positive academic and social-emotional outcomes at the student level?
2. Is the relationship between school support and ELL students' academic and social-emotional outcomes mediated by parental school involvement?
3. How do ELL children's perceived academic and social-emotional skills relate to their academic achievement?

Examination of these research questions has direct implications for educational policy and can better inform researchers, educators, and policy-makers as to the importance of school support for the growing ELL student population. Understanding the contributions of school support to academic and social-emotional outcomes can help guide public school administrators as they decide how to allot financial, physical, and human resources to most effectively serve ELLs. Furthermore, by exploring the role of parental school involvement as a potential mediator of the relationship between school support and student outcomes, we will be better able to determine the extent to which schools should focus their time, efforts, and resources toward reaching the parents and families of ELL children.

CHAPTER 3

METHOD

Participants

Participants were drawn from the Early Childhood Longitudinal Study-Kindergarten Cohort of 1998 (ECLS-K), and, due to this study's examination of specialized student services, the restricted-use data files were used.² The ECLS-K used a complex sampling design (i.e., clustered primary sampling unit, multi-stage design) to collect longitudinal data from more than 21,000 children across the United States as they progressed from kindergarten to eighth grade. Because certain demographic groups (e.g., Asian American children, children attending private schools) were intentionally oversampled in the ECLS-K (in order to obtain large enough sample sizes for these groups), sampling weight C5PW0 was used in all analyses, including estimations of demographic information. The C5PW0 weight represents the third-grade, cross-sectional weight value that is recommended when using data from children, teachers, administrators, and parents in combination. Using the ECLS-K sampling weights accounts for selection bias and systematic non-response in the sample and yields estimates that more closely represent the target population (Tourangeau, Nord, Lê, Sorongon, & Najarian, 2009). Sample sizes reported are the unweighted frequencies

² ELL students were considered a special population by ECLS-K. Because there were a relatively small number of ELL children receiving specialized language support services in third grade, ECLS-K deemed that this information should only be released in the restricted-use files in order to protect children from possible identification. Restricted-use files are not open to the public without a license.

observed in the sample. As required by NCES when working with restricted-use data, all sample sizes and degrees of freedom were rounded to the nearest 10.

The sample for this study was comprised of ELL children who participated in the ECLS-K data collection in the fall of kindergarten (1998-1999 school year) and the spring of third grade (2001-2002 school year). Although not all ELL students were in third grade in the spring of 2002 (i.e., 10% were in second grade; less than 1% were in first or fourth grade), they are referred to as third-graders in the current study because the majority (89%) were in third grade as expected based on when they began kindergarten. ELL children were identified at kindergarten entry based on their scores from an English language proficiency test (described below). Of the approximately 1,450 children identified as ELLs in kindergarten, 1,080 children participated in the third-grade round of data collection. Of these students, approximately 60 (5%) were missing data for both the reading and mathematics achievement tests and were therefore eliminated from the sample. An additional number of students (< 10) had not been administered the Self-Description Questionnaire-I (SDQ-I) and were also eliminated from the sample. Of the 1,020 ELLs who were administered the SDQ-I and at least one of the achievement tests (in reading or mathematics), 87% were Hispanic, 10% were Asian/Pacific Islander, 3% were White, and less than 1% were Black, Native American, or Multiracial. The ELL sample was split evenly between males (50%) and females (50%). The majority of the children were native Spanish-speakers (87%). Another 6% were from Asian language backgrounds, 1% were from non-English European language backgrounds, 1% were from other language backgrounds (non-English and non-Spanish), and 5% did not report native language on school records or parent surveys. The ECLS-K calculated a mean

socioeconomic level (based on household income, parents' educational levels, and prestige of parents' occupations) for all third-grade students in the sample, and approximately 93% of the ELL students in this sample fell below the mean socioeconomic level.

ELL students in this study attended approximately 420 different schools. The number of ELL children in each school ranged from 1 to 14, with an average of 2.42 students per school. Sixty percent of the schools had one student in the sample, 13% had two students, 7% had three students, and 20% had four or more ELL students who participated in the ECLS-K. Approximately 97% of the students attended public schools, and the majority (79%) attended large elementary schools with more than 500 students. Nearly 75% of sampled ELLs attended schools where more than 75% of the students were ethnic minorities, and 76% of ELL children attended schools where more than 50% of the students were classified as low-income. In the schools that ELL students attended, an average of 65% of the student body was eligible for free school lunch. Regarding the percentage of ELL students in the school, 46% of students attended high-ELL schools (i.e., where ELLs comprised at least 25% of the population; Cosentino de Cohen et al., 2005), 19% attended low-ELL schools (i.e., where ELLs comprised less than 25% of the population; Cosentino de Cohen et al., 2005), and this information was not reported for the remaining 35% of the students.

Measures

Language status. Students were identified as ELLs based on their scores from an English language fluency test (i.e., the Oral Language Development Scale [OLDS]; Duncan & De Avila, 1998) that was administered in the fall semester of kindergarten.

The OLDS was administered to all students who were from non-English language backgrounds (i.e., native English-speakers did not take the OLDS). If students scored above the cut-point established by test developers (i.e., 37 points or more), they were classified as English proficient. Students who scored below the cut-point on the OLDS were deemed to have limited proficiency in English at kindergarten entry and were classified as ELLs. Only students who scored below the OLDS cut-point in kindergarten were included in the present sample.

Parent interviews. Parents completed interviews in the spring of their children's third-grade year. The majority of parents (98%) completed their interviews over the telephone, and bilingual interviewers or interpreters were available for parents who did not speak English (NCES, 2004). Parents were asked approximately 500 questions addressing a broad range of topics, including family structure, child care, home environment, and parental school involvement. The child's mother was the respondent in 87% of the cases, and the child's father was the respondent in 9% of the cases. Parent interviews were completed for approximately 78% of the third-graders in the full sample who began the ECLS-K in kindergarten. In the present study, information from parent surveys was primarily used to measure parental school involvement. Consistent with the literature on the different dimensions of parental involvement (e.g., parental involvement in educational activities at home versus parents' involvement directly with the school; Fan & Chen, 2001), parental school involvement was defined specifically as parents' participation in school events (e.g., attending open house nights, volunteering at the school) and parents' communication with their children's teachers (e.g., parent-teacher conferences). See Table 1 under Parental School Involvement for a full list of items.

Teacher surveys. Children’s teachers completed a three-part, self-administered survey packet in the spring of the children’s third-grade year (NCES, 2004). Part A consisted of questions about the teacher’s classroom environment and teaching practices, and Part B consisted of questions about the teacher’s background and perceptions of overall school climate. Part C was completed separately for each ECLS-K child in the classroom and included teachers’ ratings of the academic and social-emotional skills of each child, in addition to the extent to which each child participated in special programs or services at school. Thus, Parts A and B consisted of teacher-level data, and Part C consisted of student-level data. Across the three teacher surveys, completion rates ranged from 62-63% for the full sample of third-grade students who began the study in kindergarten. For the current study, questions from all three teacher surveys were used. Questions from Part A were used to measure the services typically provided to ELL students in the classroom (e.g., frequency and amount of ESL instruction, languages spoken by the teacher, and use of resources in the child’s native language). Questions from Part B were used to measure the teachers’ levels of training in instructing ELL children (e.g., ESL certification and coursework). For Parts A and B, teacher reports were aggregated to the school level (see Table 1 under School Support for a full list of variables). Information from Part C was used to control for students’ actual participation in special services (e.g., students who participated in Title I ESL/bilingual services; see Table 2 under Control Variables—Student Level).

School administrator surveys. School administrators also completed self-administered surveys in the spring of third grade (NCES, 2004). The survey asked about the administrator’s background, school and student body demographics, teacher

characteristics, programs and services provided by the school, and the overall school climate. School administrator surveys were completed for approximately 66% of the third-graders in the full sample who began the ECLS-K in kindergarten. In the current study, school administrator responses were used to measure family outreach services for ELLs (e.g., providing interpreters at parent-teacher meetings, translating school documents; see Table 1 under School Support) and school demographics that needed to be controlled for in the analyses (e.g., type of school, school size, percentage of ethnic minority and ELL students in the school; see Table 2 under Control Variables—School Level).

Reading and mathematics achievement scores. To measure academic outcomes, item response theory (IRT) scale scores in reading and mathematics were used. The direct cognitive assessments, designed specifically for the ECLS-K, were individually administered adaptive tests using a two-stage assessment design (NCES, 2004). On both the reading and mathematics assessments, children were first given a 15-17 item routing test, which determined the difficulty of the items they received for the second stage of the assessment. All assessments were administered entirely in English.

For the reading assessment, students had a booklet with the reading passages and test questions printed. All questions were read aloud by the administrator, but students read the response options on their own from the reading response booklet. The third-grade reading assessment included items in the following content areas: 15% basic skills (phonemic awareness and word decoding), 10% vocabulary, 15% initial understanding of reading passages, 30% developing interpretation of reading passages, 15% personal reflection and response, and 15% demonstrating a critical stance in reading

comprehension (Pollack, Atkins-Burnett, Rock, & Weiss, 2005). The third-grade assessment also contained five proficiency levels that were specified by test developers to reflect a progression in children's reading knowledge and comprehension skills. In order of increasing difficulty, the proficiency levels were: recognition of sight words, comprehension of words in context, literal inference, extrapolation, and evaluation of text.

In the mathematics assessment, the problems were displayed on small easels that the children could see, and administrators also read aloud all questions and response choices. For open-ended mathematics problems, students had a workbook to use. The third-grade mathematics assessment included items from the following content areas: 40% number sense, properties, and operations; 20% measurement; 15% geometry and spatial sense; 10% data analysis, statistics, and probability; and 15% patterns, algebra, and functions (Pollack et al., 2005). The four mathematics proficiency levels were specified as follows: solving simple addition/subtraction problems, solving simple multiplication/division problems and recognizing number patterns, demonstrating understanding of place value, and using rate and measurement to solve word problems.

Regardless of the second-stage reading or mathematics assessment form that a child received (i.e., low, medium, or high item difficulty), use of IRT scale scores makes it possible to meaningfully compare all children on a continuous scale (NCES, 2004). Specifically, IRT methods account for the difficulty of each item, the ability of each item to discriminate between high- and low-performers, and the likelihood of guessing the correct answer for each item to place children on a continuous ability scale based on the number of items they missed, answered correctly, or skipped. The IRT scores represent

the number of items a child would have answered correctly if he or she had been administered all 154 questions on the first- and second-stage reading assessment and all 123 questions on the first- and second-stage mathematics assessment. For the reading assessment, possible scores ranged from 0 to 154 with a mean of 106.1 ($SD = 20.7$) for the full third-grade sample. For the mathematics assessment, possible scores ranged from 0 to 123 with a mean of 83.3 ($SD = 18.3$) for the full sample. Regarding the sample used in this study, ELL students had a mean reading score of 103.1 ($SD = 23.4$) and a mean mathematics score of 83.8 ($SD = 21.9$).

NCES (2004) reported internal reliability estimates of .94 and .95, respectively, for the reading and mathematics third-grade IRT scale scores. Regarding construct validity, the reading and mathematics measures were found to correlate strongly with a similar measure of achievement, the Woodcock-McGrew-Werder Mini-Battery of Achievement (MBA; Woodcock, McGrew, & Werder, 1994). (The MBA is a short, educational screening instrument used to measure achievement in four areas: Reading, Writing, Mathematics, and Factual Knowledge.) There was a correlation of .83 between the ECLS-K reading assessment and the MBA reading assessment and a correlation of .84 between the ECLS-K mathematics assessment and the MBA mathematics assessment (NCES, 2004). In addition, IRT scores were compared to teachers' ratings of students' academic abilities as reported on the ECLS-K teacher surveys. Moderate to high correlations were found between students' reading IRT scores and teachers' ratings of their reading abilities ($r = .65$) and between students' mathematics IRT scores and teachers' ratings of their mathematics abilities ($r = .59$).

Modified SDQ-I. The SDQ-I, a self-report instrument, was originally developed by Marsh (1990b) to measure multiple dimensions of self-concept in children ages 5 to 12. The original SDQ-I was modified for use in the ECLS-K to make the survey a more manageable length for students (Pollack et al., 2005). Specifically, only four of the seven original SDQ-I subscales (i.e., Perceived Interest/Competence in Reading, Perceived Interest/Competence in Math, Perceived Interest/Competence in All Subjects, and Peer Relations) were included in the ECLS-K version of the SDQ-I. The ECLS-K also developed two new subscales (i.e., Internalizing Problems and Externalizing Problems) to measure the extent to which children struggled with psychological and behavioral concerns at school. Other changes to the SDQ-I included a reduced response scale (i.e., the response scale was changed from a 5-point scale to a 4-point scale after a field test indicated that second- and third-grade children were better able to interpret the response choices on the smaller scale; Pollack et al., 2005). The resulting response scale ranged from *1 = Not At All True* to *4 = Very True*. In addition, some minor changes were made to the wording of certain items (e.g., *marks* was changed to *grades*; *look forward to* was changed to *cannot wait to*), and a few items were removed if they were a) highly similar to other items, and b) eliminating them did not change the internal consistency of the subscales.

The resulting version of the SDQ-I, as used in the full third-grade sample, was comprised of the following items and scales: Perceived Interest/Competence in Reading (8 items; $\alpha = .87$), Perceived Interest/Competence in Math (8 items; $\alpha = .90$), Perceived Interest/Competence in All Subjects (6 items; $\alpha = .79$), Peer Relations (6 items; $\alpha = .79$), Externalizing Problems (6 items; $\alpha = .77$), and Internalizing Problems (8 items; $\alpha = .81$).

For all third-graders who completed the SDQ-I, possible subscale scores ranged from 1 to 4 with the following mean values: Reading ($M = 3.26$), Mathematics ($M = 3.16$), All Subjects ($M = 3.03$), Peer Relations ($M = 2.92$), Externalizing Problems ($M = 2.02$), and Internalizing Problems ($M = 2.22$). Means and standard deviations for the current sample are shown in Table 3. Previous research (Niehaus & Adelson, 2011) has shown the factor structure of the SDQ-I to provide good model fit for third-grade ELL students who participated in the ECLS-K, and additionally, the SDQ-I was found to measure self-concept invariantly across ELL children and their English-proficient peers.

Data Analysis

All analyses were completed using Mplus statistical software (Muthén & Muthén, 1998-2010). To account for missing data from students, parents, teachers, and school administrators, multiple imputation was used to impute 10 datasets, as recommended by Enders (2010). Multiple imputation is considered a state of the art technique for handling missing data and produces estimations that are less biased than using listwise deletion or single imputation methods (Enders, 2010). By imputing 10 datasets, each missing data point was replaced with 10 plausible values, thereby accounting for uncertainty in the exact values of the missing data. Because the data consisted of variables measured at the student level (e.g., direct child assessments) and variables measured at the school level (e.g., school administrator reports), separate imputation models were run for student-level variables versus school-level variables. See Table 3 (student level) and Table 4 (school level) for descriptive statistics for both the original and imputed data. In the student-level imputation model, each student ($N \approx 1,020$) served as a case, while in the school-level imputation model, each school ($N \approx 420$) served as a case. Conducting the multiple

imputation models using this methodology helped ensure that each student who attended the same school received the same imputed values for school-level variables. After the 10 student-level files and 10 school-level files were imputed separately, they were merged back together to form 10 imputed files containing both the student- and school-level data. The 10 merged, imputed datasets were then used to answer Research Questions 1-3.

Because the research questions of interest involved the measurement of latent constructs and analysis of causal paths among constructs, structural equation modeling (SEM) was chosen as the most appropriate analytic technique. SEM offers several advantages in data analysis that were important to the methodological rigor of the current study. First, SEM allows for the measurement and examination of underlying theoretical constructs (e.g., school support) that would be difficult to measure by simply computing a mean score of observed variables (Kline, 2010). Second, because multiple indicator variables are used to measure latent constructs, SEM techniques account for unreliability in measurement models. Lastly, SEM allows for the estimation of both direct and indirect (i.e., mediator) effects in structural models, thereby maximizing the number of relationship patterns that can be examined among different constructs. Because this study addressed the direct and indirect effects of school support on ELL student outcomes, as potentially mediated by parental school involvement, SEM was deemed the most methodologically sound approach for addressing the current research questions.

Figure 1 shows the conceptual model guiding this study. In order to address issues related to the measurement of latent constructs and examine the relationships between school support, parental involvement, and ELL student outcomes, a hybrid model was employed that featured both a measurement model and a structural model (Kline, 2010).

Testing of the hybrid model followed the two-step procedure recommended by Anderson and Gerbing (1988). According to the two-step procedure, it is essential to first establish a sound measurement model before analyzing structural paths. Thus, in the first step, a measurement model was specified and then estimated using confirmatory factor analysis (CFA). Based on the results of the CFA, model fit was evaluated in combination with theory and respecifications were made to the measurement model as needed to establish a valid, conceptually sound model that best fit the data. In the second step, path analysis techniques were implemented to build the full hybrid model with structural paths.

An important element of the structural analyses was the mediation model. Specifically, it was expected that school support would have a direct effect on ELL student outcomes and also an indirect effect as mediated by parental school involvement. In other words, parental school involvement was hypothesized to partially mediate the relationship between school support and student outcomes (Baron & Kenny, 1986). However, because these analyses were exploratory in nature without previous research to guide specific predictions, other types of mediation were also considered as possibilities. Specifically, Zhao et al. (2010) specified five different categories of mediation: complementary mediation (the direct effect and the indirect effect are both significant and in the same direction), competitive mediation (the direct effect and the indirect effect are both significant but in opposite directions), indirect-only mediation (the indirect effect is significant but not the direct effect), direct-only nonmediation (the direct effect is significant but not the indirect effect), and no-effect nonmediation (neither the direct nor indirect effect is significant). When testing for any type of mediation, it is important to account for the fact that the indirect effect does not follow a normal distribution because

it is the product of two variables (MacKinnon et al., 2007). As such, analytic techniques that adjust for the non-normal distribution are needed. One commonly used technique involves modeling indirect effects through the use of resampling procedures, such as bootstrapping (Preacher & Hayes, 2008). However, when using multiple imputation data in Mplus, bootstrapping techniques and modeling of indirect effects are not available. As such, the PRODCLIN program (MacKinnon et al., 2007) was used to test for mediation after SEM analyses were completed in Mplus. Specifically, after entering the unstandardized path estimates, standard errors, correlations, and Type I error rates into the PRODCLIN program, it computes the 95% confidence interval for the product of the indirect effect, taking into account its non-normal distribution. Approximate *p*-values for the indirect effects were obtained by finding the smallest confidence interval that did not include zero (e.g., if the 93% confidence interval was the smallest confidence interval that did not include zero, then *p* would be approximately .07).

To determine how well the measurement and structural models fit the data, a variety of model fit indices were used, as recommended by Kline (2010). Model fit was evaluated by examining the χ^2 statistic, the root mean square error of approximation (RMSEA), and the comparative fit index (CFI). RMSEA values less than .05 (Browne & Cudeck, 1993) and CFI values greater than .90 (Marsh, Hau, & Wen, 2004) are recommended for good model-to-data fit. Because the χ^2 statistic is sensitive to sample size (i.e., there is a greater likelihood of rejecting the null hypothesis with large samples; Kline, 2010), it was important to have multiple fit indices to provide additional evidence for model decision-making.

The current sample of ELL students consisted of children nested in schools. Because clustered data violate the assumption of independence required by traditional significance tests, failing to account for the nested nature of these data in statistical analyses would produce biased standard error estimates and increase the Type 1 error rate (McCoach & Adelson, 2010). Thus, it was important to use an appropriate statistical technique to adjust for the non-independence of the data and accurately estimate the error terms. However, due to the extremely small sizes of the clusters (i.e., there was an average of 2.42 ELL students per school with 60% of the schools having only one student), multilevel modeling techniques were not appropriate. Thus, an alternative method was used in which the Mplus analysis setting was specified as TYPE = COMPLEX. Although the complex analysis setting does not provide as much information as multilevel modeling techniques (e.g., the ability to separate child-level effects from school-level effects and test cross-level interactions), use of the complex analysis setting does adjust the standard errors in the model to account for non-independence of observations, sample stratification, and selection bias (Muthén & Muthén, 1998-2010). As such, this was deemed the most appropriate method for handling the structure of these data.

CHAPTER 4

RESULTS

Measurement Model

Because the hypothesized model linking School Support, Parental Involvement, and ELL student outcomes was complex in nature (i.e., used items across a variety of different surveys and different informants), analyses began with five separate measurement models for each of the five main constructs (i.e., School Support, Parental Involvement, Academic Achievement, Academic Self-Concept, and Social-Emotional Problems). Each measurement model also included all control variables measured at both the school- and student-levels. The school-level covariates were School Type (public or private), School Enrollment (size of student body), School Title I (whether the school received Title I funds), School Minority (the percentage of minority students in the school), and School ELL (the percentage of ELL students in the school). The student-level covariates were Race (Hispanic was the reference group; dummy codes were created for Asian/Pacific Islander and Other Race [including White, Black, Native American, and Multiracial]), SES (socioeconomic status), Grade (grade level in school), Previous Achievement (a latent variable measured by first grade reading and mathematics achievement scores), and Child ESL (indicated by a child who received either pull-out ESL, in-class ESL, or Title ESL/Bilingual services at school in third grade).³ Each of the

³ Gender was also considered as a student-level covariate. However, initial analyses showed that Gender was not significantly related to any of the five latent constructs, and it was therefore removed from further analyses.

five measurement models is described below, along with the results from the complete measurement model in which all constructs were integrated into one final model.

School Support. Initial tests of the School Support construct specified a hierarchical model in which School Support was a first-order factor measured by two second-order factors (i.e., student services and family outreach services). Because all hierarchical models that were tested yielded inadmissible solutions (due to factor loadings larger than 1.00), School Support was then tested as a two-factor model (non-hierarchical). Results indicated that a two-factor, non-hierarchical model of School Support did not fit the data well either. Therefore, student services and family outreach services were combined into one construct to measure School Support.

The construct had 12 indicators, and correlations were estimated among several of the indicators due to unique relationships among particular sets of items. Specifically, the percentage of children receiving in-class ESL services was correlated with the percentage of teachers who spoke another language in the school, the frequency with which children participated in ESL activities, and the amount of time children spent in ESL activities. The frequency with which children participated in ESL activities in the school was also correlated with the total amount of time children spent in ESL. The average number of ESL courses completed by teachers in the school was correlated with the percentage of teachers who were certified in ESL. Lastly, correlations were estimated among the following three variables reported by school administrators: whether the school provided interpreters, translated written documents, and held special meetings for ELL families. Estimation of the School Support construct (without covariates) yielded acceptable levels of model fit, $\chi^2(46) = 119.129$ ($p < .001$), CFI = .956, RMSEA = .039.

In the next step, the school-level covariates (i.e., School Type, School Enrollment, School Title I, School Minority, and School ELL) and student-level covariates (i.e., Asian/Pacific Islander, Other Race, SES, Grade, Previous Achievement, and Child ESL) were controlled in the measurement model. That is, School Support was correlated with each of the covariates, and correlations were estimated among all of the covariates as well. In addition, some correlations were specified between the school-level covariates and particular indicators on the School Support construct. Because schools with more ELL students, more ethnic minority students, and more Title I services tend to provide more outreach to ELL families (Cosentino de Cohen et al., 2005), correlations were estimated among these school-level covariates (School ELL, School Minority, School Title I) and family outreach services as reported by the school administrator (special meetings, interpreters, and written translations). The final measurement model for School Support using all the specified parameters as described above had acceptable levels of model fit, $\chi^2(179) = 365.955$ ($p < .001$), CFI = .938, RMSEA = .032.

Parental Involvement. Parental Involvement was measured by five indicators that were all highly similar in meaning (i.e., all items tapped parents' involvement in school activities, meetings, and events). Initial model fit, before adding in control variables, fell within the acceptable range, $\chi^2(5) = 15.086$ ($p < .05$), CFI = .960, RMSEA = .044. Parental Involvement was then correlated with the five school-level covariates and with the six student-level covariates. Correlations were also specified among all of the covariates. This model had acceptable levels of fit according to various model fit indices: $\chi^2(63) = 98.661$ ($p < .01$), CFI = .966, RMSEA = .023.

Academic Achievement. Academic Achievement was measured with children's third-grade reading and mathematics achievement scores. Before adding in the covariates, the model was just identified. In the next step, Academic Achievement was correlated with all school- and student-level covariates, and correlations were estimated among all of the covariates as well. As a stand-alone model, the Academic Achievement measurement model provided acceptable, but less than ideal, model-to-data fit: $\chi^2(21) = 123.532$ ($p < .001$), CFI = .926, RMSEA = .069.

Academic Self-Concept. The Academic Self-Concept construct was measured with children's self-beliefs in three areas: reading, mathematics, and all school subjects. The initial model had acceptable but not ideal fit, $\chi^2(2) = 17.223$ ($p < .001$), CFI = .953, RMSEA = .086. Academic Self-Concept was then correlated with the six student-level covariates and the five school-level covariates, and correlations were estimated among all of the covariates. The model fit fell within the acceptable range, as evidenced by the fit indices: $\chi^2(34) = 70.616$ ($p < .001$), CFI = .965, RMSEA = .032.

Social-Emotional Problems. The initial model testing Social-Emotional Problems included measures of externalizing behaviors, internalizing behaviors, and peer relationships. However, this model yielded an inadmissible solution due to a factor loading greater than 1.00 for internalizing behaviors. In addition, results showed that the peer relationships measure did not load highly on the Social-Emotional Problems construct (factor loading = .166). It is not surprising that these three measures would not load together given that the internalizing and externalizing scales were created by the ECLS-K, whereas the peer relationships scale was part of the original SDQ-I. Thus, the peer relationships variable was removed from the analyses, and the model ran

appropriately. The resulting model was just identified. After the Social-Emotional Problems construct was correlated with all of the student- and school-level controls, model fit indices fell within the acceptable range, $\chi^2(21) = 62.223$ ($p < .001$), CFI = .960, RMSEA = .044.

Full measurement model. In the full measurement model, the five constructs described above were integrated into one model. Two additional correlations were estimated between children's self-concept in reading and their third-grade reading achievement scores and between children's self-concept in mathematics and their third-grade mathematics achievement scores. Initial testing of the full model without covariates yielded good model fit, $\chi^2(232) = 294.859$ ($p < .001$), CFI = .969, RMSEA = .016. In the final step of testing the measurement model, all latent constructs were correlated with all school- and student-level covariates, and all covariates were correlated with one another. Results showed that the full measurement model had acceptable levels of model fit as evidenced by the following fit indices, $\chi^2(465) = 659.512$ ($p < .001$), CFI = .943, RMSEA = .020.

Structural Model

The structural model was an equivalent model to the measurement model (i.e., had the same number of parameters and degrees of freedom), with the only change being the relationships among the five latent constructs. Rather than having correlations among all the latent constructs as was specified in the measurement model, the structural model estimated causal paths among the constructs. Specifically, causal paths were estimated from School Support to Parental Involvement, Academic Achievement, Academic Self-Concept, and Social-Emotional Problems. Paths were also specified from Parental

Involvement to Academic Achievement, Academic Self-Concept, and Social-Emotional Problems. Finally, the three outcome variables (i.e., Academic Achievement, Academic Self-Concept, and Social-Emotional Problems) were all correlated with one another.

Because the structural model was equivalent to the measurement model, it had the same model fit, $\chi^2(465) = 659.512$ ($p < .001$), CFI = .943, RMSEA = .020.

Descriptive analyses. The means and standard deviations for all observed variables are shown in Tables 3 and 4. In addition, Table 5 shows the correlations between each of the covariates and the five latent constructs. Of note, there were several statistically significant associations between the student- and school-level covariates and the latent constructs. For the School Support construct, results showed that public schools ($r = -.726$, $p < .001$) and Title I schools ($r = .331$, $p < .001$) provided more support for ELL students and families. Additionally, schools with larger student enrollments ($r = .189$, $p < .001$), more minority students ($r = .347$, $p < .001$), and more ELL students ($r = .541$, $p < .001$) provided more School Support. A few of the student-level covariates also shared significant relationships with School Support. Specifically, Asian/Pacific Islander ELLs attended less supportive schools as compared to Hispanic ELLs ($r = -.381$, $p < .001$), ELL students from lower SES backgrounds attended schools with more support services ($r = -.181$, $p < .001$), and ELL children who were identified as receiving ESL services in third grade attended schools with higher levels of support ($r = .455$, $p < .001$).

Regarding the Parental Involvement construct, results showed that Parental Involvement was higher in private schools ($r = .455$, $p = .001$) and in schools with a higher minority student population ($r = .142$, $p = .01$). ELL students from racial backgrounds other than Hispanic and Asian/Pacific Islander had lower levels of Parental

Involvement ($r = -.325, p = .024$), and ELL students from higher SES backgrounds had higher levels of Parental Involvement ($r = .168, p = .002$).

None of the school-level covariates was significantly associated with students' Academic Achievement. At the student level, Asian/Pacific Islander ELLs ($r = .197, p < .001$) and ELL children from other racial backgrounds ($r = .281, p = .022$) had higher levels of achievement as compared to Hispanic ELLs. ELL students from higher SES backgrounds ($r = .291, p < .001$) had higher Academic Achievement, as did ELL students with higher Previous Achievement scores in first grade ($r = .941, p < .001$). ELLs who had been retained in earlier grades had lower levels of achievement ($r = .423, p < .001$), and ELL children who received ESL services at school (i.e., in-class, pull-out, or Title I ESL) had lower Academic Achievement than ELL children who were not receiving specific language support services at school ($r = -.215, p = .002$).

Only two of the school- or student-level covariates were significantly associated with Academic Self-Concept. ELL children tended to have higher Academic Self-Concepts when they attended schools with higher populations of minority students ($r = .111, p = .011$) and with higher populations of ELL students ($r = .107, p = .025$).

Regarding the Social-Emotional Problems construct, ELL students who attended private schools ($r = .388, p = .006$), schools with smaller enrollment sizes ($r = -.106, p = .023$), and schools with more minority students ($r = .113, p = .021$) reported more Social-Emotional Problems. At the individual level, Asian/Pacific Islander ELLs reported fewer social and emotional concerns as compared to Hispanic ELLs ($r = -.268, p < .001$). Additionally, ELL children reported more Social-Emotional Problems when they were from lower SES backgrounds ($r = -.138, p = .001$), had been retained in earlier grades (r

= -.172, $p < .001$), had lower Previous Achievement ($r = -.333$, $p < .001$), and had been identified as recipients of ESL services at school ($r = .166$, $p = .022$).

Analyses of structural paths. Estimates for the structural paths are displayed in Figure 1. Of note, there was a positive, significant relationship between School Support and Parental Involvement ($\beta = .168$, $p = .028$), such that ELL parents were more involved in their children's education when schools provided more support services to ELL students and their families. Although Parental Involvement did not have a statistically significant direct effect on ELL students' Academic Achievement ($\beta = .039$, $p = .516$) or Academic Self-Concept ($\beta = .042$, $p = .530$), Parental Involvement was a significant predictor of ELL children's Social-Emotional Problems ($\beta = -.149$, $p = .018$). Specifically, ELL children reported fewer social and emotional concerns when their parents were more involved in their education.

Results regarding the relationship between School Support and ELL student outcomes were interesting, and in some cases, opposite from what was expected. In particular, there was a negative direct effect from School Support to Academic Achievement ($\beta = -.141$, $p = .026$) and a positive direct effect from School Support to Social-Emotional Problems ($\beta = .148$, $p = .010$). These findings indicate that ELL children had lower achievement and more social and emotional concerns when they attended schools that provided more support services. Although there was a positive direct effect from School Support to Academic Self-Concept ($\beta = .099$, $p = .095$), suggesting that students had more positive academic self-beliefs when they attended schools with more support, this relationship was not quite statistically significant.

Regarding the relationships among the three student outcome variables, results showed that Academic Self-Concept was not significantly related to either Academic Achievement ($r = .027, p = .594$) or to Social-Emotional Problems ($r = .073, p = .187$). However, when looking at reading and mathematics separately, the analyses revealed that students' self-concept in mathematics was positively and significantly related to their achievement in mathematics ($r = .271, p < .001$), and the relationship between students' reading self-concept and reading achievement was nearly significant ($r = .145, p = .077$). Finally, results showed a significant, negative association between Social-Emotional Problems and Academic Achievement ($r = -.388, p < .001$), such that ELL children achieved at significantly lower levels when they experienced more social and emotional concerns at school.

In terms of the proportion of variance explained by the model, R^2 values were examined. Approximately 3% of the variance in Parental Involvement was accounted for by School Support ($R^2 = .030$). For the student outcome variables, School Support and Parental Involvement together explained approximately 2% of the variance in Academic Achievement ($R^2 = .020$), 1% of the variance in Academic Self-Concept ($R^2 = .013$), and 4% of the variance in Social-Emotional Problems ($R^2 = .037$). Overall, the effect sizes were small in magnitude, which is to be expected given the many factors that are known to contribute to parental involvement and student outcomes.

Mediation analyses. Table 6 shows the direct, indirect, and total effects for the relationships between School Support and the three student outcome variables (as potentially mediated by Parental Involvement). To test the significance of the indirect effects, the 95% confidence intervals for the products of the indirect effects were

calculated in PRODCLIN (MacKinnon et al., 2007). Estimates of the indirect effects were as follows: School Support to Academic Achievement ($b = .019$, $SE = .033$, 95% C.I. = $-.041$ to $.095$, approximate $p = .559$), School Support to Academic Self-Concept ($b = .005$, $SE = .008$, 95% C.I. = $-.011$ to $.024$, approximate $p = .627$), and School Support to Social-Emotional Problems ($b = -.020$, $SE = .014$, 95% C.I. = $-.051$ to $.001$, approximate $p = .079$). Although none of the indirect effects quite reached conventional levels of statistical significance, the mediation analyses yielded some results worth noting. In particular, the direct and indirect effects were opposite in direction for two paths: School Support to Academic Achievement and School Support to Social-Emotional Problems. Regarding the path from School Support to Academic Achievement, the direct effect ($b = -.401$) suggests that School Support is negatively related to Academic Achievement, while the indirect effect ($b = .019$) reflects that School Support is positively associated with Parental Involvement ($b = .192$), which is in turn positively associated with Academic Achievement ($b = .097$). Likewise, for the path from School Support to Social-Emotional Problems, the direct effect ($b = .115$) suggests School Support is positively associated with Social-Emotional Problems, but the indirect effect ($b = -.020$) reflects that School Support is positively linked with Parental Involvement ($b = .192$), which is in turn negatively associated with Social-Emotional Problems ($b = -.102$). Had these indirect effects been statistically significant at the conventional .05 level, results would be consistent with Zhao et al.'s (2010) idea of competitive mediation (i.e., the direct effect and indirect are both significant but opposite in sign). Overall, results suggest a complex relationship between support offered in the

school environment, parents' involvement in their children's education, and academic and social-emotional outcomes for ELL children during the elementary years.

CHAPTER 5

DISCUSSION

Using Bronfenbrenner's bioecological theory (Bronfenbrenner, 1994; Bronfenbrenner, 2005) as a lens to examine ELL children's development in their school and home environments, the present study explored how school support and parental involvement contributed to positive academic and social-emotional outcomes among ELLs in elementary school. Results from structural equation modeling yielded six main findings. First, numerous school- and student-level characteristics were significantly associated with the level of support in ELL students' schools, with how involved their parents were in their education, and with ELL children's achievement, self-concept, and social-emotional concerns. Second, higher levels of school support predicted more parental involvement among ELL families. Third, more parental involvement was linked with fewer social and emotional problems among ELL children in the classroom. Fourth, ELL children who reported fewer social-emotional difficulties at school had significantly higher levels of achievement. Fifth, mediation analyses revealed an interesting and complex relationship between school support and ELL student outcomes, such that ELL children who attended schools with more support services actually had lower levels of academic achievement and reported more social and emotional concerns. Finally, ELL children's academic self-concept in third grade was not significantly associated with their academic achievement overall (first-grade or third-grade achievement), but when looking specifically at the subjects of reading and mathematics, ELLs who had higher

mathematics self-concept had significantly higher scores on the mathematics assessment in third grade, and the correlation between ELLs' reading self-concept and third-grade reading achievement was nearly significant. Each of these findings will be discussed below, along with implications of the results and suggestions for future research in this area.

Student- and School-Level Characteristics

Consistent with previous research examining school-level characteristics associated with ELL support services (Cosentino de Cohen et al., 2005), results showed that ELL students and families were provided with more support services when they attended public schools, schools with larger enrollment sizes, Title I schools, schools with more minority students, and schools with larger ELL populations. These findings suggest that schools provide more support services when they have a large percentage of the student body in need of such services and also confirm Cosentino de Cohen et al.'s (2005) conclusion that ELL children receive more support when they attend high-ELL schools.

The present study also revealed associations between school support and some student-level characteristics. For example, Hispanic ELLs attended schools with more support as compared to Asian/Pacific Islander ELLs, which is likely due to the fact that the majority of ELL children are Hispanic (Batalova & McHugh, 2010), making it easier for schools to tailor their services to the needs of this language group. This finding suggests it may be more difficult for ELL students from non-Spanish-language backgrounds to gain access to the support services that they may need, especially when there are few other students in the school who speak that particular native language. On a

similar note, ELL children from racial backgrounds other than Hispanic and Asian/Pacific Islander (i.e., White, Black, Native American, or Multiracial backgrounds) had significantly lower levels of parental involvement, which also reflects the idea that ELL students and families may have less access to support services when they are from less common language backgrounds. (It is important to note, however, that Asian/Pacific Islander ELLs may come from a variety of different language backgrounds, meaning that some of these students may also speak a language that is uncommon in their particular school.) If ELL children are from a language background that is not common among the school population, it is less likely that schools will have the necessary resources to provide interpreters for parents and bilingual written communications, thereby making it difficult for the parents to communicate with teachers and get involved at school.

Focusing specifically on student outcomes, there were many school- and student-level characteristics associated with ELL children's achievement, academic self-concept, and social-emotional problems at school. Regarding students' achievement levels, the variable that correlated most strongly with ELL children's third-grade achievement was their first-grade achievement. This is important to note, because ELLs' prior achievement explained approximately 89% of the variance in their current achievement. Having one variable that accounts for such a large proportion of the variance also means that it is more difficult to detect other variables that may meaningfully contribute to students' achievement but have small effect sizes. In essence, prior achievement may "wash out" the effects of other variables in the model, which may partially explain why some predictors (e.g., parental involvement) did not reach statistical significance.

Results also showed that Hispanic ELLs had significantly lower achievement as compared to Asian/Pacific Islander ELLs and ELLs from other racial backgrounds, which is consistent with previous research findings (e.g., Suárez-Orozco et al., 2008). Additionally, ELL students from higher SES backgrounds had higher levels of achievement, which may partially explain the findings regarding racial group differences (e.g., Orr, 2003; Reardon & Galindo, 2009). More specifically, in addition to having higher achievement scores, Asian/Pacific Islander ELLs and ELLs from other racial backgrounds also had significantly higher SES scores as compared to Hispanic ELLs. When examining between-group achievement gaps, the notion that race is highly related to, and often confounded by, SES is well-documented in the literature among the general school-aged population (e.g., Orr, 2003; Reardon & Galindo, 2009), and the present study extends these findings to ELL populations as well.

Also of note, ELL children who were identified as recipients of language support services at school (i.e., 65% of students in the sample were identified as recipients of in-class, pull-out, or Title I ESL/bilingual services in third grade) had significantly lower academic achievement than the 35% of ELL children who were not receiving specialized language instruction in third grade. This finding may reflect the important role of English language proficiency in children's academic development in that children who gain proficiency earlier in elementary school have more positive academic outcomes across childhood (Halle, Hair, Wandner, McNamara, & Chien, 2012). Interestingly, Hispanic ELLs were significantly more likely to be receiving language support services compared to Asian/Pacific Islander ELLs in the third grade. Given that students from Asian language backgrounds tend to obtain higher levels of English proficiency and gain

proficiency at a faster rate than students from Spanish-speaking backgrounds (Conger, 2009; Suárez-Orozco et al., 2008), the fact that Hispanic ELLs were more likely to be enrolled in language support programs, after three years in U.S. schools, may partially explain the observed achievement differences between these two groups of ELL children.

Regarding children's academic self-concept, results showed that although none of the student-level characteristics were related to self-concept, the composition of the student body at school did significantly relate to ELL children's self-beliefs. More specifically, when ELL children attended schools with higher proportions of ethnic minority students and ELL students, they had more positive beliefs about their overall academic abilities. This finding seems most consistent with Marsh's "big-fish-little-pond effect" (Marsh, 1987; Marsh & Hau, 2003; Marsh et al., 2008). The big-fish-little-pond effect is grounded in social comparison theory and posits that students' surrounding contexts and frames of reference are critical in the formation and development of academic self-concept. One of the most important contextual variables is the ability level of their peers or classmates. For example, research has consistently shown that students of equal ability levels have lower academic self-concepts when they attend schools where the average ability level is high, and vice versa, have higher academic self-concepts when they attend schools where the average ability of other students is low (Marsh, 1987, Marsh & Hau, 2003, Marsh et al., 2008). Thus, as indicated in the present study, ELL children may have higher academic self-concepts when they are surrounded by more students who have similar characteristics to them (e.g., ethnic, cultural, and language backgrounds) and possibly similar ability levels as well. Given that schools with high populations of ethnic minority students and ELL students tend to have lower school-wide

achievement scores (Suárez-Orozco et al., 2008) and that ELL children tend to have lower achievement levels as compared to native English-speaking children [NAEP, 2009a, 2009b], ELL children in high-ELL schools may have a more homogenous comparison group (i.e., more classmates whom they perceive as similar) in terms of judging their skills relative to other students. Although not previously studied among ELL populations in U.S. schools, the present study suggests that the big-fish-little-pond effect may apply to ELL children as well, though future research should continue exploring this idea. Additionally, these findings point to the school environment as an important microsystem (Bronfenbrenner, 1994; Bronfenbrenner, 2005) in the formation of ELL children's self-beliefs.

Turning attention to students' social-emotional problems, results showed that ELL children reported more social and emotional concerns when they attended private schools and schools with smaller enrollment sizes. This finding makes sense when considering the composition of the student body at private schools (i.e., there are smaller proportions of ELL children as compared to public schools). In the present study, the correlation between school type and percentage of ELL students in the school was $-.632$ ($p < .001$), indicating that private schools had significantly smaller percentages of ELL children. Because children who are ELLs tend to build friendships and support networks at school based on common characteristics such as shared language backgrounds, cultural backgrounds, and/or countries of origin (Suárez-Orozco et al., 2008), ELLs attending private schools may experience more loneliness, sadness, and anxiety as a result of having fewer students like themselves with whom they can build supportive relationships. However, given the lack of research examining ELL children who attend private schools,

this hypothesis clearly warrants further investigation. At the student-level, ELLs reported more social-emotional problems when they were from Hispanic backgrounds, had lower SES, had been retained in an earlier grade, and had received language support services at school. Given that these four student characteristics were also associated with low academic achievement, students' social and emotional wellbeing seems to be intricately connected to their academic success—a connection that will be further explored when discussing the causal paths in the model below.

School Support and Parental Involvement

Although extant literature has focused on addressing the barriers that ELL parents may face in U.S. schools and has offered recommendations for how to overcome these barriers (e.g., Arias & Morillo-Campbell, 2008; Borba, 2009; Zehler et al., 2008), little research has examined how the support that schools may offer to ELL families relates to parents' actual levels of involvement. Thus, the present study fills a gap in the current literature base and offers promising findings in this area. More specifically, the present study found that ELL parents were more involved in their children's education when schools offered more support and outreach services to ELL students and families.

Although there are other types of family outreach that may be provided, the present study focused specifically on providing interpreters at parent-teacher conferences and other school meetings, providing translated written documents (e.g., bilingual newsletters), and offering special meetings for ELL families to help them navigate the school system and learn more about their role in their children's education. Given that parental involvement is highly valued by teachers, administrators, and policy-makers (Borba, 2009; NCLB, 2002), the connection between school support and parental involvement is encouraging in

that school support is a factor that is malleable and can be changed. Results highlight the importance of the home-school mesosystem for ELL children (Bronfenbrenner, 1994; Bronfenbrenner, 2005) and suggest that if schools can obtain the financial and human resources that are needed to offer these types of support, parental involvement among ELL families increases. In addition, parental involvement is an important contributor to students' academic achievement (Fan & Chen, 2001; Nye et al., 2006) and social-emotional development (El Nokali et al., 2010; Iruka et al., 2011; Powell et al., 2010). Although parental involvement shared a positive but non-statistically significant relationship with academic achievement in the present study, it was a significant predictor of ELL children's social and emotional wellbeing.

Parental Involvement and Social-Emotional Problems

The current study revealed a significant, negative path from parental involvement to ELL children's social-emotional problems, indicating that ELL children reported fewer social and emotional difficulties when their parents were more involved in their education. This finding is congruent with previous research that has shown a significant connection between parents' involvement and their children's social and emotional skills (El Nokali et al., 2010; Iruka et al., 2011; Powell et al., 2010). Furthermore, similar to previous studies by El Nokali et al. (2010) and Powell et al. (2010) with general school-aged populations, results from the current study suggested that parental involvement was more strongly related to social-emotional skills than to academic achievement among ELL children. This finding makes sense when considering that many classroom issues revolve around students' social functioning and behavioral problems, in addition to academic difficulties. Thus, as hypothesized by El Nokali et al. (2010), it seems that

students have more positive social-emotional wellbeing when their parents are working collaboratively with teachers and schools to address such social-emotional difficulties that may be present in both the classroom and at home—an idea that is congruent with Bronfenbrenner’s emphasis on the home-school connection as an important mesosystem that shapes children’s developmental pathways (Bronfenbrenner, 1994; Bronfenbrenner, 2005). The connection between parental involvement and social-emotional wellbeing among ELL children may be particularly important given that ELL children report significantly more social and emotional concerns (e.g., inattention, off-task behaviors, difficulties with peers, worry, sadness, and loneliness) as compared to their English-proficient peers (Niehaus & Adelson, 2011). Thus, ELL children may be considered to be at risk for developing negative social and emotional trajectories in the early grades. The present study suggests that parents’ involvement may help ameliorate some of these concerns among ELL children and points to parental involvement as a possible target for prevention and intervention efforts seeking to help this population of students.

Social-Emotional Problems and Academic Achievement

Little research has examined ELL children’s social and emotional health, especially self-reported, as a correlate of their academic success. Thus, this study makes important contributions to the current understanding of ELL children’s performance in the classroom. Although there are a variety of factors to consider (e.g., English proficiency, SES, cultural differences, family stressors; Suárez-Orozco et al., 2008) when seeking to explain why ELL children typically have lower achievement than their English-proficient classmates, this study adds a new element to the achievement-gap discussion—social-emotional wellbeing. More specifically, results showed that as ELL

children's social-emotional concerns in the classroom increased, their level of academic achievement decreased. Findings suggest that externalizing problems (e.g., inattention, off-task behavior, difficulties with classmates) and internalizing problems (e.g., worry, loneliness, sadness, anxiety) may detract from ELL children's learning in the classroom, which is consistent with previous research findings among the general school-aged population (e.g., Baker, 2006; Hamre & Pianta, 2005; Normandeau & Guay, 1998).

When examining social-emotional concerns among the ELL population, it is important to consider sociocultural factors that may be involved or may be contributing to these difficulties. Perhaps of most importance, the process of second language acquisition in itself may contribute to internalizing and externalizing behaviors among ELL children (Rhodes et al., 2005). For example, if a child is in the process of learning English, he or she will likely have increased difficulties following the teacher's directions and paying attention in an English-dominant classroom, and he or she may also feel additional anxiety and worry about his or her classroom performance and fitting in with peers. It is not surprising, then, that previous research has shown ELL children to report significantly more internalizing and externalizing problems as compared to English-proficient children (Niehaus & Adelson, 2011). Given that ELL children report more difficulties with internalizing and externalizing behaviors and that internalizing and externalizing problems are also linked to lower achievement as shown in the present study, it seems likely that social-emotional concerns may at least partially explain the relationship between language status (ELL or English-proficient) and academic achievement. Although the present study did not include English-proficient children in

the sample, future research should consider mediation models in examining the relationship between language status, social-emotional wellbeing, and achievement.

School Support and Student Outcomes

As described in the preceding paragraphs, school support predicted higher levels of parental involvement, more parental involvement predicted lower social-emotional concerns among ELL students, and fewer social-emotional difficulties were in turn associated with higher academic achievement in the classroom. Given these relationships among latent constructs in the model, one would expect that school support would be negatively linked with social-emotional problems and positively linked with academic achievement. However, this was not the case. Results from the mediation analyses examining the direct and indirect effects from school support to student outcomes were both interesting and confusing, making the findings difficult to explain.

Specifically, school support had a negative direct effect on academic achievement such that ELL students had lower achievement when they attended schools that offered more support services. Likewise, ELL students reported more social-emotional difficulties when they attended schools with more support services. Even more perplexing, mediation analyses showed that the indirect effects for these two pathways, although non-significant, were in opposite directions from the direct effects. That is, the direct effect from school support to academic achievement was negative ($b = -.401$), while the indirect effect (via parental involvement) was positive ($b = .019$). Similarly, the direct effect from school support to social-emotional problems was positive ($b = .115$), while the indirect effect (via parental involvement) was negative ($b = -.020$). Although

neither of the indirect effects quite reached conventional levels of statistical significance, results are suggestive of a competitive mediation pattern (Zhao et al., 2010).

When considering a pattern consistent with competitive mediation (i.e., the direct and indirect effects point in opposite directions), Zhao et al. (2010) indicate that there is a strong likelihood of another variable (or set of variables) that may account for the direction of the direct path. In the present study, this means that there is likely some variable that has not been accounted for in the current model that may explain the observed relationship between school support and student outcomes. It seems that this omitted variable may be related to additional school characteristics that have not been accounted for in the study. For example, we know that students have lower achievement scores when they attend schools with higher populations of ethnic minority students, ELL students, and students living in poverty (Suárez-Orozco et al., 2008). However, these types of schools are also the schools that offer more support services to ELL students and families because there is a greater need for these types of services among their student body (Cosentino de Cohen et al., 2005). This means that it is difficult to disentangle support services from school characteristics associated with low achievement, which may explain the contradictory results observed in this study.

Although many school-level characteristics were controlled for in the model (e.g., school type, whether the school received Title I funding, the percentage of ELL and minority students in the school), it seems that there are still other factors affecting the relationship between school support and student outcomes that have not been captured here. One possible factor relates to the quality of instruction in the school. Schools with high populations of ELL children, ethnic minority children, and lower SES children tend

to have larger percentages of new teachers, higher rates of uncertified teachers, and higher teacher-to-student ratios (Cosentino de Cohen et al., 2005; Suárez-Orozco et al., 2008). These characteristics may be associated with lower-quality teaching at the schools (e.g., Jepsen & Rivkin, 2009), which was not addressed in this study. Thus, it may be that important characteristics related to the quality of children's education were not accounted for in the present study and that these characteristics may explain some of the observed relationships that were difficult to understand using only the variables in the current model. Future studies examining school support may want to consider controlling for not only the student demographics present within the school but also teacher demographics that may yield valuable information regarding quality of instruction at the school. Better yet, it would be ideal to have direct measures (perhaps observations) of teaching quality, which would affect overall school support.

It is also important to consider how the findings regarding school support and student outcomes compare to previous research in this area. Han and Bridglall's (2009) study is the primary source of comparison given that it is the only other study that has examined school support for ELLs using a comprehensive, multifaceted framework. Although Han and Bridglall used multilevel modeling and examined observed school support variables rather than latent constructs, results from their study and the present one are similar in many regards. Specifically, in their longitudinal study of ELL children from kindergarten through fifth grade (which also used ECLS-K data), Han and Bridglall found that ELL students had lower levels of reading and mathematics achievement when they attended schools with more teachers who spoke other languages in addition to English, more ESL aides, more instructional ESL programs, more Title I services, and

more outreach services for ELL families (related to mathematics achievement only). These findings were observed at each time point the children were measured (i.e., kindergarten, first grade, third grade, and fifth grade). These results are consistent with findings from the present study.

Interestingly, though, Han and Bridglall (2009) also tracked ELL students' growth over time and found that students made faster gains in reading achievement when more teachers spoke other languages in addition to English and when the school had more ESL aides. Likewise, students made greater gains over time in mathematics achievement when more teachers spoke a non-English language, schools provided more Title I services, and schools offered more family outreach services. Thus, it may be that school support for ELL students and families is linked with more positive outcomes when examining children's growth trajectories across the elementary school years and that many of these benefits are not seen when looking at children's outcomes at only one point in time. The cross-sectional nature of the present study, then, was a distinct limitation that may have provided a restricted view of the potential long-term benefits of school support for ELL students. It would be helpful for future research to focus more on the long-term effects of school support, which would be best captured in a multi-year longitudinal model.

Finally, when considering the findings regarding school support and student outcomes, it is important to note potential problems with the measurement of school support. In particular, the present study used data from a secondary data source (i.e., the ECLS-K), and therefore, analyses were dependent on the variables that had been collected by the ECLS-K researchers. As such, there are limitations with the data that were used to measure support services—one particularly serious limitation being the lack

of ECLS-K data that tap into the quality of school services that were offered. Perhaps most important to this study, there were no data available that addressed the quality of specialized language support programs. Given the wide range of language support programs (e.g., dual language programs, transitional bilingual programs, ESL pull-out, ESL content/sheltered instruction, structured English immersion), it would be helpful to have more information regarding the language support services (e.g., how much children's native language was used and whether the goal was to maintain children's bilingualism or solely to gain English proficiency). These are important pieces of information, because previous research has shown that ELL children fare better when educated in both their native language and in English versus in English-only programs (Collier & Thomas, 2004). The majority of the ECLS-K's questions addressing language support focused on ESL instruction (defined as "an instructional program designed to teach listening, speaking, reading, and writing English language skills to limited-English-proficient students" [NCES, 2004]), meaning there was little information available regarding the use of students' native languages in their education (e.g., in dual language or bilingual programs). In addition, we do not know about the quality of teaching that was provided in the specialized language instruction programs. Overall, there are numerous limitations in the measurement of school support, which has significant implications for the validity and reliability of the results. If more accurate information regarding school support were available (e.g., regarding the focus and quality of language support), a different picture may emerge regarding the direct effect of school support on student outcomes. For these reasons, it is important to consider the exploratory nature of these results in light of the given limitations. Future research in the form of replication

studies is certainly needed before any type of definitive claims can be made regarding the effects of school support for ELL children. Replication studies should also seek to improve upon the measurement of school support by obtaining more detailed information regarding the quality, rather than quantity, of services that are offered to ELL students and families.

Academic Self-Concept and Achievement

Another question of interest in the present study was how ELL children's academic self-concept related to their academic achievement. Interestingly, results showed that, overall, students' academic self-concept was not significantly associated with their actual achievement, but when looking at individual subject areas (i.e., reading and mathematics) separately, a different picture emerged. More specifically, ELL students had significantly higher mathematics achievement scores when they had more positive self-concept in mathematics. There was also a positive association between reading self-concept and reading achievement, though it was not quite statistically significant. It is interesting to note that the relationships between self-concept and achievement in specific subject areas were stronger than the general relationship between overall academic self-concept and overall achievement (mathematics $r = .271, p < .001$; reading $r = .145, p = .077$; overall $r = .027, p = .594$). This finding is consistent with the literature on students' self-beliefs, which contends that self-beliefs are domain-specific and that there are stronger relationships between self-beliefs and academic outcomes when we examine self-beliefs in particular contexts (e.g., subject areas) rather than from a more global perspective (e.g., Marsh & Martin, 2011; Valentine et al., 2004).

The relationship between academic self-concept and achievement for ELL students has not received much attention in the literature and is therefore not well understood currently. In addition, the few studies that have examined ELL children's self-beliefs have done so from a global perspective (e.g., general academic self-efficacy, LeClair et al., 2009; Rodriguez et al., 2009). Thus, future research in this area should focus on using more domain-specific measures of ELL children's self-concept to obtain the most accurate picture of how self-beliefs and achievement are related for this group of students. At least in the subjects of mathematics and reading, the current study suggests that it is important for educators to foster ELL children's beliefs in their capabilities for success (e.g., by ensuring students have mastery experiences in the classroom, by modeling effective learning strategies, and by encouraging students with constructive feedback; Bandura, 1997), as these beliefs contribute to higher achievement.

Limitations

There are several limitations in the present study that warrant discussion. As mentioned previously, all data were from a secondary data source (i.e., the ECLS-K). Although using the ECLS-K provided numerous benefits in this study (e.g., a large, nationally representative ELL sample, a variety of informants including teachers, parents, and administrators, and multiple student-outcome measures), it also limited the analyses in terms of the information that was available. Specifically, some important information regarding ELL students' educational experiences was not available because it was not collected as part of the ECLS-K study. This problem was most apparent when considering the school support construct, because data regarding the quality of student support services, especially specialized language instruction, were not available in the

ECLS-K database. In particular, there were no observations of classroom practices (e.g., instructional and emotional support), which was a significant limitation in terms of understanding the quality of support that ELL children received while at school. There were also other pieces of information that would have been helpful to include in the current study but were not available. For example, it would have been interesting to explore students' sense of school support (i.e., how supported ELL students felt in their school environments) rather than simply looking at the services that the schools provided. However, the ECLS-K did not collect information regarding sense of school support from students' perspectives. Perhaps future studies of school support can include the perspectives of administrators, teachers, parents, and students.

Another limitation related to the design of the study. This was a cross-sectional study that only examined ELL students' outcomes at one point in time—third grade. The cross-sectional nature of the study limits the extent to which causal claims can be made. For example, even though results showed that social-emotional problems and academic achievement were negatively related, we cannot conclude that social-emotional problems cause low achievement among ELL children because both measures were collected at the same time. In order to disentangle some of these causal issues, future research should focus on longitudinal analyses that can better pinpoint how one variable contributes to another over time. Using the example regarding social-emotional concerns and achievement again, it would be helpful in a future study to conduct a cross-lagged model where social-emotional problems and achievement in third grade are predictors of social-emotional problems and achievement in fifth grade (third and fifth grade were used because those match the ECLS-K data collection points). This type of model would help

clarify the effects of social-emotional problems on later achievement scores, controlling for the effects of prior achievement.

Finally, the composition of the ELL sample could be seen as a limitation to the current study. Of the ELL children in this sample, 87% were Hispanic, 10% were Asian/Pacific Islander, 3% were White, and less than 1% were Black, Native American, or Multiracial. Thus, the vast majority of the students were from Hispanic, Spanish-speaking backgrounds, which could limit the extent to which the findings from this study apply to ELL children from other ethnic, cultural, and language groups. It would be helpful for future studies to obtain more diverse ELL samples to better explore similarities and differences in the educational experiences of ELL children from varying language backgrounds. Additionally, all ELL students in this sample had been in U.S. schools for at least three years already. Given that newcomer ELL students who have recently immigrated to the United States face more difficulties in adjusting to a new language, a new culture, and a new school (Short & Boyson, 2012), it is likely that the results found in this study are conservative estimates in terms of the difficulties experienced by ELL children and the extent to which school support is important for positive student outcomes.

Implications for Policy and Practice

The present study addresses several gaps in the extant literature examining school success among ELL populations by: a) determining how school support services relate directly to ELL student outcomes, b) taking a systemic approach toward understanding ELL development in both the home and school contexts (Bronfenbrenner, 1994; Bronfenbrenner, 2005), and c) considering not only academic achievement as an

important developmental outcome but also ELL children's self-beliefs and social-emotional wellbeing. Thus, this study makes unique contributions to our growing knowledge of how parents and schools can best support ELL students and has significant implications for school administrators, teachers, and parents. First, schools should focus on fostering parental involvement among ELL families. As shown in the present study, one way this can be accomplished is by offering more support and outreach services to this population of students and their parents. Given the contributions of parental involvement to students' social and emotional development, school administrators and teachers should evaluate the current services they provide to ELL families to determine if the school is adequately meeting the needs of this group. If not, schools can change their practices by building in additional avenues for support to help encourage more involvement among parents. Possible examples are providing interpreters at parent-teacher conferences and school events, ensuring that all newsletters, e-mails, and written communications are bilingual (or multilingual), and offering special meetings to welcome ELL families and help them become acquainted with the school. Additionally, administrators and teachers should focus on educating ELL parents about the importance of their role in their children's development to ensure that schools are building strong alliances with ELL families and valuing the strengths that each family can bring.

Given that ELL children report significantly more social-emotional concerns as compared to English-proficient peers (Niehaus & Adelson, 2011) and that social-emotional problems were associated with lower achievement scores in this study, schools should be paying particular attention to the social and emotional development of ELL children. We typically see a large focus on improving the academic performance of ELL

children in the classroom (e.g., Han & Bridglall, 2009), but current findings suggest ELLs' social and emotional wellbeing may be equally important. Teachers, school counselors, and school administrators need to: a) know that ELL children are vulnerable to mental health concerns (Niehaus & Adelson, 2011), and b) have the knowledge and skills to work effectively with these children to alleviate these social-emotional concerns, especially considering their negative contributions to academic development.

As Villalba (2003) suggests, perhaps school counseling interventions may help ELL children identify and cope with some common stressors that they experience in the classroom. Individual or group counseling sessions could be used to provide ELL children with resources and coping strategies that promote social and emotional wellbeing. For example, although not studied specifically with ELL populations, there are several intervention programs (e.g., *Coping Cat*; Kendall, Aschenbrand, & Hudson, 2003) that have been found effective in reducing children's levels of anxiety/worry. Schools could possibly look into counseling-based interventions, or better yet, consider school-based prevention practices that would help prevent internalizing and externalizing problems before they become significant concerns for students (Weisz, Sandler, Durlak, & Anton, 2005). Such school-based prevention practices may include a caring and supportive school community, strong bonds between students and teachers, and direct instruction to promote social and emotional skills among students (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Future research is needed to explore how these prevention and intervention strategies may help foster more positive social and emotional development among ELL children during the elementary years, which in turn, may positively contribute to ELL students' academic development as well.

Results from the present study also showed that ELL students' self-concept in mathematics and reading was positively associated with achievement scores in these subjects, which suggests that schools may also want to focus on fostering positive self-beliefs among ELL children, particularly related to their academic skills. Interestingly, in this study, ELL students felt more positively about their academic skills when they were surrounded by other students who were similar to them (i.e., other ELL children and children from racial minority backgrounds), which may have implications for the specialized support services that are offered to ELL students. One area where this may be particularly relevant is in language support programming. English-only versus bilingual instruction has been a much debated topic in recent years (Rolstad et al., 2005a, 2005b; Slavin & Cheung, 2003), with significant implications for the social contexts that ELL children experience in their classrooms. ELLs in English-only classrooms often feel isolated—socially, culturally, and linguistically—from their peers (Gifford & Valdes, 2006; Suárez-Orozco et al., 2008), while bilingual language programs tend to promote inclusivity across languages and cultures (Crawford, 1997; Rojas & Reagan, 2003). At the core of bilingual programs is the belief that bilingualism is an asset rather than a deficiency that needs to be fixed, meaning that each student's heritage language and cultural background are welcomed and valued in the classroom. If feelings of isolation contribute negatively to self-beliefs among ELL children as suggested in the present study, it is possible that ELL children in English-only educational settings may also be at risk for the development of low self-concepts and negative self-perceptions. Although this study was not able to examine English-only and bilingual instructional programs specifically, future studies should explore the extent to which the social contexts of

language support programs, particularly the issue of isolation versus connectedness, may relate to ELL children's developing sense of self.

Also related to the idea of specialized programming for ELLs, many school districts are now offering "newcomer academies" for ELL students who have recently arrived in the United States (Short & Boyson, 2012). Newcomer academies are generally short-term programs (i.e., one to two years) that focus on providing supportive environments for immigrant ELL students to enhance their language and literacy skills in English and their native language, to provide some instruction in the core content areas, and to help ELL students and families in the acculturation process. Because newcomer academies have only become prevalent within the past decade, little research has examined how the academic and social-emotional outcomes of ELL students attending newcomer academies compare to those of ELLs in schools with traditional ESL or bilingual programs (Short & Boyson, 2012). Based on findings from the current study, it is possible that newcomer academies and similar specialized programs may help ELL students establish positive self-beliefs given that they are surrounded by a supportive group of peers who are experiencing similar life circumstances. This would certainly be an interesting question to address in the burgeoning research on newcomer academies and the potential benefits of such programs.

Conclusions

The present study utilized a systemic framework to examine the academic and social-emotional development of ELL children during the elementary school years. Indeed, results showed that the school environment, parental behaviors, and ELL student outcomes were all interconnected, demonstrating the importance of considering the

various environmental contexts that influence children's development (Bronfenbrenner, 1994; Bronfenbrenner, 2005). This study also revealed several avenues for future research, particularly related to the quality of support services that are offered to ELL students in their schools, the contribution of ELL children's social-emotional wellbeing to their classroom achievement, and the potential for longitudinal studies to shed additional light on the long-term effects of school and parental support for ELL students. As the ELL population continues to grow in coming years, it will become increasingly important for researchers and educators to invest in learning more about how our schools can best serve this population of students and their families.

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Table 1

Categorized List of ECLS-K Predictor Variables

ECLS-K Variable Names	Data Source	Variable Descriptions
School Support		
A5ESLRE (aggregated)	Teacher (Part A)	What percentage of the LEP children in your class receive ESL instruction in the following ways in your school or center—receive in-class ESL?
A5OFTESL (aggregated)	Teacher (Part A)	How often and how much time do children in your class usually work on lessons or projects in the following general topic areas—ESL frequency?
A5TXESL (aggregated)	Teacher (Part A)	How often and how much time do children in your class usually work on lessons or projects in the following general topic areas—amount of time in ESL?
A5BOOKS (aggregated)	Teacher (Part A)	How often do children use the following resources or materials in your class—books and other written materials in children’s first language (for non-English speakers)?
A5TSOL (aggregated)	Teacher (Part A)	Which languages are spoken by you and any other teacher or aide to the LEP children in your class—any non-English language?
B5ESL (aggregated)	Teacher (Part B)	How many college courses have you completed in the following areas—ESL?
B5ESLCT (aggregated)	Teacher (Part B)	Are you certified in these areas—ESL?
B5LEPTRN (aggregated)	Teacher (Part B)	To what extent do you agree with the following statement—I am adequately trained to teach children in my class who have limited English proficiency?
P5ESNEW	Parent	When your child’s teacher sends home notes or newsletters, are these in a language that you speak?
S5TRANSL	School Administrator	Are any of the following services provided to families of language minority/LEP children—translators are made available to parents for parent/teacher and parent/school staff meetings?
S5TRNWRT	School Administrator	Are any of the following services provided to families of language minority/LEP children—translations of written communications are provided to LM-LEP families?
S5MEETSP	School Administrator	Are any of the following services provided to families of language minority/LEP children—the school conducts special parent meetings for non-English background families?

Parental School Involvement		
P5ATTENB	Parent	Since the beginning of the school year, have you or the other adults in your household—attended an open house or a back-to-school night?
P5ATTENP	Parent	Since the beginning of the school year, have you or the other adults in your household—attended a meeting of a PTA, PTO, or Parent-Teacher Student Organization?
P5PARGRP	Parent	Since the beginning of the school year, have you or the other adults in your household—gone to a regularly-scheduled parent-teacher conference with your child’s teacher or meeting with your child’s teacher?
P5ATTENS	Parent	Since the beginning of the school year, have you or the other adults in your household—attended a school or class event, such as a play, sports event, or science fair?
P5VOLUNT	Parent	Since the beginning of the school year, have you or the other adults in your household—volunteered at the school or served on a committee?

Note. Variable names beginning with *P* represent parent-reported data, variable names beginning with *S* represent school administrator-reported data, and variable names beginning with *A* or *B* represent teacher-reported data. The terms *ELL* (*English Language Learner*) and *LEP* (*Limited English Proficient*) are used interchangeably in this study.

Table 2

Categorized List of ECLS-K Outcome and Control Variables

ECLS-K Variable Names	Data Source	Variable Descriptions
Academic Achievement		
C5R4RSCL	Child	Child's reading IRT scale score in third grade.
C5R4MSCL	Child	Child's mathematics IRT scale score in third grade.
Academic Self-Concept		
C5SDQRDC	Child	Child's self-reported interest/competence in reading on the SDQ-I.
C5SDQMTR	Child	Child's self-reported interest/competence in mathematics on the SDQ-I.
C5SDQSBC	Child	Child's self-reported interest/competence in all subjects on the SDQ-I.
Social-Emotional Problems		
C5SDQEXR	Child	Child's self-reported externalizing problems on the SDQ-I.
C5SDQINR	Child	Child's self-reported internalizing problems on the SDQ-I.
Control Variables—School Level		
S5SCTYP	School Administrator	Type of school (public or private).
S5ENRLS	School Administrator	Total school enrollment.
S5MINOR	School Administrator	Percentage of minority students in the school.
S5TT1	School Administrator	Did your school receive Federal Title I funds this school year?
S5LEPSCH	School Administrator	What percent of children in this school are LEP?
Control Variables—Student Level		
RACE	ECLS-K	Child's race (split into dummy codes for Asian/Pacific Islander, Other [including White, Black, Native American, and Multiracial], and Hispanic as the reference group).
W3SESL	ECLS-K	Continuous measure of the child's socioeconomic status (based on household income, parents' education, and prestige of parents' occupations).
T5GLVL	Teacher (Part C)	Grade level of child at the time of data collection.
C4R4RSCL	Child	Prior reading achievement (IRT scale score) in first grade.

C4R4MSCL	Child	Prior mathematics achievement (IRT scale score) in first grade.
T5PLLESL	Teacher (Part C)	Does this child receive instruction and/or related services in any of the following types of programs in your school during the school day—pull-out ESL program?
T5INCESL	Teacher (Part C)	Does this child receive instruction and/or related services in any of the following types of programs in your school during the school day—in-class ESL?
T5TT1ES	Teacher (Part C)	Did this child participate in any of the following federally funded Title I programs or services offered by the school during this school year—Title I ESL/Bilingual?

Note. Variable names beginning with *C* represent direct child assessment data, variable names beginning with *S* represent school administrator-reported data, and variable names beginning with *T* represent teacher-reported data. The terms *ELL* (*English Language Learner*) and *LEP* (*Limited English Proficient*) are used interchangeably in this study.

Table 3

Means and Standard Deviations for Original and Imputed Data—Student Level

Variable	Original Data			Imputed Data		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Control Variables						
Race: Hispanic	1020	.73	.44	1020	.73	.44
Race: Asian/Pacific Islander	1020	.24	.43	1020	.24	.43
Race: All other groups	1020	.03	.16	1020	.03	.16
SES	800	-.79	.61	1020	-.77	.61
Grade	1020	-.11	.34	1020	-.11	.34
First-grade reading ^a	730	6.40	1.79	1020	6.15	1.80
First-grade mathematics ^a	940	5.01	1.39	1020	4.97	1.41
Receives pull-out ESL	630	.17	.38	1020	.18	.38
Receives in-class ESL	630	.45	.50	1020	.46	.50
Receives Title I ESL/Bilingual	590	.28	.45	1020	.30	.46
Direct Child Assessment						
Third-grade reading ^a	1010	10.31	2.34	1020	10.29	2.34
Third-grade mathematics ^a	1020	8.38	2.19	1020	8.38	2.19
SDQ Reading	1020	3.27	.60	1020	3.27	.60
SDQ Mathematics	1020	3.23	.64	1020	3.23	.64
SDQ All Subjects	1020	3.01	.59	1020	3.01	.59
SDQ Externalizing	1020	2.18	.72	1020	2.18	.72
SDQ Internalizing	1020	2.52	.67	1020	2.52	.67
Parent Data						
Translated newsletters	800	.74	.44	1020	.74	.44
Attend open house	800	.74	.44	1020	.75	.43
Attend PTA	800	.53	.50	1020	.53	.50
Attend conferences	790	.88	.33	1020	.88	.33
Attend school events	800	.56	.50	1020	.57	.49
Volunteer at school	800	.25	.43	1020	.27	.44

Note. All sample sizes were rounded to the nearest 10 in accordance with NCES procedures.

^aAll reading and mathematics achievement scores were divided by 10 in order to keep the magnitude of the variances similar to other variables in the model.

Table 4

Means and Standard Deviations for Original and Imputed Data—School Level

Variable	Original Data			Imputed Data		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Control Variables						
School type	1020	.04	.19	1020	.04	.19
School enrollment	1020	3.15	.94	1020	3.15	.94
School minority	1020	.82	.24	1020	.82	.24
School Title I	740	.87	.33	1020	.85	.36
School ELL	710	.42	.27	1020	.39	.26
School Support						
In-class ESL	770	.55	.43	1020	.55	.44
ESL frequency	790	2.61	1.48	1020	2.57	1.54
ESL time	770	1.47	1.05	1020	1.50	1.07
Use native language materials	790	2.46	1.78	1020	2.47	1.87
Teacher speaks other language	800	.50	.40	1020	.50	.42
ESL courses	750	2.75	2.03	1020	2.63	2.05
ESL certification	790	.40	.40	1020	.40	.40
Trained to teach ELLs	790	.93	.82	1020	.91	.88
Translators at meetings	740	.95	.22	1020	.95	.22
Translation of documents	740	.93	.25	1020	.92	.27
Special meetings	740	.69	.46	1020	.68	.46

Note. All sample sizes were rounded to the nearest 10 in accordance with NCES procedures.

Table 5

Correlations Between Covariates and Latent Constructs

Covariate	School support	Parental involvement	Academic achievement	Academic self-concept	Social-emotional problems
School-level					
School type	-.726***	.455**	-.175	.007	.388**
School enrollment	.189***	-.002	.080	-.039	-.106*
School Title I	.331***	-.146	-.042	.022	-.024
School minority	.347***	.142*	-.025	.111*	.113*
School ELL	.541***	-.001	-.022	.107*	.014
Student-level					
Asian/Pacific Islander	-.381***	-.066	.197***	-.087	-.268***
Other race	-.267	-.325*	.281*	-.077	-.101
SES	-.181***	.168**	.291***	-.007	-.138**
Grade	.082	.033	.423***	-.004	-.172***
Previous achievement	-.098	.106	.941***	.081	-.333***
Child ESL	.455***	-.026	-.215**	.011	.166*

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6

Relationships Between School Support and Student Outcomes Using Parental Involvement as a Mediator: Direct, Indirect, and Total Effects

Path	Direct effect	Indirect effect (95% C.I.)	Total effect
School support → academic achievement	-.401	.019 (-.041 to .095)	-.382
School support → academic self-concept	.063	.005 (-.011 to .024)	.068
School support → social-emotional problems	.115	-.020 (-.051 to .001)	.095

Note. All estimates are unstandardized, and the 95% confidence interval for the indirect effect was obtained using the PRODCLIN program (MacKinnon et al., 2007).

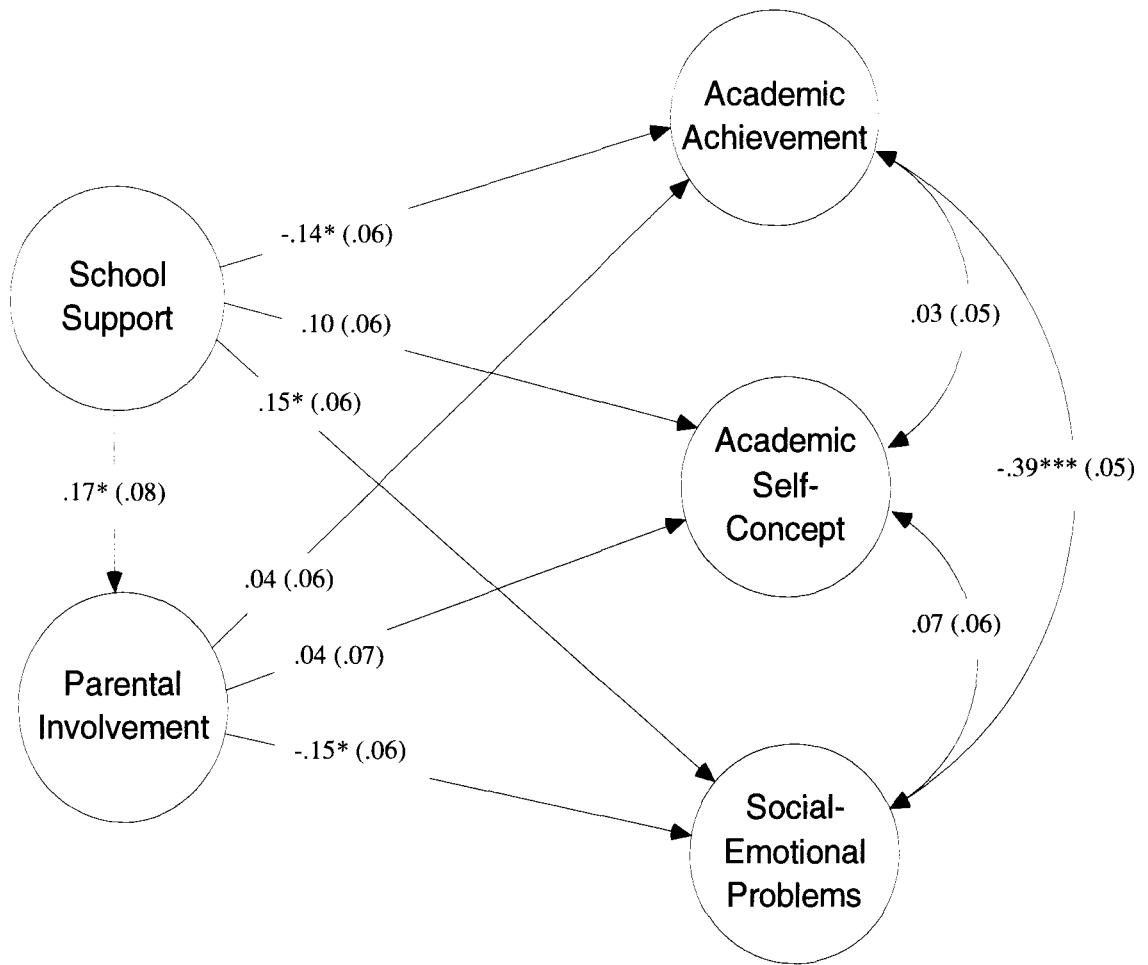


Figure 1. Structural model with standardized estimates (standard errors in parentheses). Covariates (i.e., student- and school-level control variables) are not shown here for space and clarity. Information regarding the correlations between covariates and latent constructs can be found in Table 5. * $p < .05$. ** $p < .01$. *** $p < .001$.

CURRICULUM VITAE

S. Kate Niehaus

3256 Bluegrass Drive
Shelbyville, KY 40065
(502) 321-0688
kate.niehaus@louisville.edu

Education

University of Louisville, Louisville, Kentucky, August 2008-May 2012
Doctor of Philosophy in Educational Psychology, Measurement, and Evaluation
Cumulative Graduate GPA: 4.00
Dissertation: *School Support, Parental Involvement, and Academic and Social-Emotional Outcomes for English Language Learners in Elementary School*

University of Kentucky, Lexington, Kentucky, August 2006-July 2008
Master of Science in Counseling Psychology
Cumulative Graduate GPA: 4.00

Centre College, Danville, Kentucky, August 2002-May 2006
Bachelor of Science in Psychology and Spanish
Cumulative GPA: 3.99

Grants, Honors, and Awards

Doctoral Dissertation Grant, \$10,000, State Farm Companies Foundation, 2011

Who's Who Among Students in American Universities and Colleges, University of Louisville, 2011

Graduate Student Council Travel Grant, University of Louisville, 2011

College of Education and Human Development Travel Grant, University of Louisville, 2011

Graduate Student Research Award, Kentucky Psychological Association, 2010

College of Education and Human Development Student Research Grant, University of Louisville, 2010

College of Education and Human Development Professional Development Grant, University of Louisville, 2010

Graduate Student Council Travel Grant, University of Louisville, 2010

College of Education Alumni Graduate Fellowship, University of Kentucky, 2007-2008

Cralle Fellowship, University of Kentucky, 2006-2007

Ormand Beatty Alumni Prize, Centre College, 2006

Max P. Cavnes Book Prize—Highest Female GPA, Centre College, 2004

Brown Colonel Scholarship, Centre College, 2002-2006

Honor Societies: Phi Beta Kappa (All-Discipline), Psi Chi (Psychology), Sigma Delta Pi (Spanish), Phi Sigma Iota (Foreign Language), Omicron Delta Kappa (Leadership)

Research Experience

Peer-Reviewed Publications

Niehaus, K., Rudasill, K., & Rakes, C. (in press). A longitudinal study of school connectedness and academic outcomes across sixth grade. *Journal of School Psychology*.

Niehaus, K., Rudasill, K., & Adelson, J. (2012). Self-efficacy, intrinsic motivation, and academic outcomes among Latino middle school students participating in an after-school program. *Hispanic Journal of Behavioral Sciences*, 34, 118-136.

Hamilton, M., Anderson, D., Broaddus, M., & **Young (Niehaus), K.** (2006). Gender stereotyping and under-representation of female characters in 200 popular children's picture books: A twenty-first century update. *Sex Roles*, 55, 757-765.

Other Publications and Reports

Niehaus, K. (2011, Fall). *Adelante Hispanic Achievers evaluation report: Student self-concept.* (Technical Report No. 2). Louisville, KY.

Niehaus, K. (2011, Spring). Significant researcher: An interview with an eminent researcher of giftedness and talent. *SIGNificance* (newsletter for the American Educational Research Association's Giftedness, Creativity, and Talent Special Interest Group), 9-11.

Niehaus, K. (2010, Summer). *Adelante Hispanic Achievers evaluation report: Student self-efficacy and motivation.* (Technical Report No. 1). Louisville, KY.

Manuscripts Under Review

Rudasill, K., Possel, P., Winkeljohn, S., & **Niehaus, K.** (submitted). Teacher support and student-teacher relationship quality as mediators of concurrent and longitudinal associations between temperament and depressive symptoms. Manuscript under review.

Manuscripts in Progress

Niehaus, K., & Adelson, J. (revise and resubmit). Measuring self-concept: Within- and between-group comparisons of English Language Learners and English-Proficient children. *Journal of Educational Psychology*.

Niehaus, K. (in progress). Language brokering and self-concept: An examination of Latino students' experiences during the middle and high school years.

Rudasill, K., **Niehaus, K.**, White, J., & Gonshak, A. (in progress). Difficult temperament and peer relationships in third grade: Does student-teacher relationship quality serve as a mediator?

Peer-Reviewed Presentations

Niehaus, K., & Adelson, J. (scheduled for 2012, April). *Measuring self-concept: Within- and between-group comparisons of English Language Learners and English-Proficient children*. Poster accepted for presentation at the American Educational Research Association Annual Conference, Vancouver, Canada.

Rudasill, K. M., Pössel, P., Winkeljohn, S., & **Niehaus, K.** (submitted to the American Psychological Association Annual Convention). *Teacher support, student-teacher relationships, temperament, and depressive symptoms*. Proposal under review.

Niehaus, K., Rudasill, K., & Rakes, C. (2011, March). *A longitudinal study of school connectedness and risky behavior across sixth grade*. Paper presented at the Society for Research in Child Development Biennial Meeting, Montreal, Canada.

Niehaus, K. (2011, March). *Academic and social outcomes among Latino middle and high school students participating in a community-based prevention program*. Poster presented at the Society for Research in Child Development Biennial Meeting, Montreal, Canada.

Niehaus, K., & Rudasill, K. (2010, May). *School climate, risky behavior, and self-concept during the transition to middle school*. Paper presented at the American Educational Research Association Annual Conference, Denver, CO.

Niehaus, K., & Rudasill, K. (2010, March). *School connectedness, risky behavior, and student outcomes during the transition to middle school*. Paper presented at the Kentucky Psychological Association Spring Academic (Student) Conference, Louisville, KY.

Niehaus, K., White, J., Rudasill, K., Wolf, J., & Gonshak, A. (2009, March). *The role of temperament in predicting the quality of children's early peer relationships*. Poster presented at the Kentucky Psychological Association Spring Academic (Student) Conference, Lexington, KY.

Young (Niehaus), K., & Hamilton, M. (2005, February). *Gender stereotyping and under-representation of female characters in 200 popular children's picture books: A twenty-first century update*. Paper presented at the Association for Women in Psychology Annual Conference, Tampa, FL.

Invited Presentations and Workshops

Niehaus, K. (2011, November). *Applying multiple group confirmatory factor analysis to the psychological assessment of English Language Learners*. Invited guest lecture in the graduate-level course ECPY 764: Structural Equation Modeling, University of Louisville, Louisville, KY.

Niehaus, K., & Gonshak, A. (2010, November). *The importance of student-teacher relationships for high-risk adolescent populations*. Invited workshop at the Kentucky Psychological Association Annual Convention, Louisville, KY.

Niehaus, K. (2010, September). *Motivation and self-regulation in child and adolescent development*. Invited guest lecture in the graduate-level course ECPY 507/607: Learning and Human Development, University of Louisville, Louisville, KY.

Teaching Experience

ECPY 507/607: Learning Theory and Human Growth and Development (graduate course). Summer 2011 (1 section), Fall 2011 (2 sections), and Spring 2012 (2 sections).

EDTP 107: Human Development and Learning (undergraduate course). Fall 2010 (2 sections) and Spring 2011 (2 sections).

Professional Experience

Graduate Teaching Assistant, Department of Teaching and Learning, University of Louisville, July 2010-Present.

Perform all preparation, teaching, and evaluation activities independently for ECPY 506/607. Mentor graduate teaching assistants who are first-year instructors for EDTP 107.

Evaluation Intern, Jefferson County Public Schools, Louisville, Kentucky, August 2010-December 2010.

Conducted school observations and applied data analysis skills to the evaluation of several district-sponsored programs and initiatives being implemented in the elementary, middle, and high schools.

Graduate Research Assistant, Department of Educational and Counseling Psychology, University of Louisville, August 2008-June 2010.

Assisted Dr. Natalie Kosine-Stipanovic with data collection, data entry and analysis, and scholarly writing. Helped with grading and course preparation.

Graduate Assistant, Educational and Counseling Psychology Director of Graduate Studies Office, University of Kentucky, January 2007-May 2008.

Assisted the director of graduate studies with data entry, filing, application processing, and other duties necessary to ensure efficiency in the department.

Interpreter, Accipio Language Services, Lexington, Kentucky, August 2006-August 2007.

Served as a Spanish interpreter in medical and social work settings for Latinos in the central Kentucky area.

Tutor, University of Kentucky, October 2006-December 2006.

Served as a tutor for students in the graduate-level course EPE/EDP 557: Gathering, Exploring, and Using Educational Data.

Assessment and Clinical Experience

Counseling Practicum Student, Spalding University Counseling Center, Louisville, Kentucky, August 2009-May 2010.

Performed psychological assessment batteries for the purpose of diagnosing learning disorders and ADHD, co-led a mindfulness-based stress reduction group for faculty members, and conducted individual counseling sessions with college students.

Assessment Practicum Student, Weisskopf Child Evaluation Center, Louisville, Kentucky, May 2009-August 2009.

Assessed children with autism spectrum disorders, developmental delays, and other psychological disorders. Administered, scored, and interpreted intellectual and social-emotional assessments as part of a multidisciplinary team.

Assessment Practicum Student, Archdiocese of Louisville, Louisville, Kentucky, January 2009-May 2009.

Administered, scored, and interpreted intellectual, achievement, and social-emotional assessments with children ranging from 5-18 years of age. Wrote all integrated reports and conducted feedback sessions with students, parents, teachers, and school administrators.

Mental Health Specialist, Comprehensive Care RISE Program, Harrodsburg, Kentucky, June 2008-July 2008.

Led daily group and individual therapy sessions with elementary school children through a rural, community mental health summer program. Worked on improving reading skills, self-esteem, and social competence.

Counseling Psychology Intern, Asbury College Center for Counseling, Wilmore, Kentucky, January 2008-May 2008.

Conducted individual counseling with college students and co-led a group for college females with a history of eating disorders.

Practicum Student, Croney and Clark, Inc., Lexington, Kentucky, October 2007-December 2007.

Worked at Deep Springs Elementary conducting individual counseling sessions and leading two social skills groups for children with emotional and behavioral disorders.

Group Leader, University of Kentucky Gatton College of Business and Economics, Lexington, Kentucky, August 2007-December 2007.

Co-led a social justice and diversity training group with freshman students.

Practicum Student, Family Counseling Service, Lexington, Kentucky, May 2007-October 2007.

Counseled children, adolescents, and adults in individual, group, and play therapy sessions.

Student Intern, Cardinal Valley Counseling Center, Lexington, Kentucky, January 2007-May 2007.

Conducted an independent study to gain experience in bilingual counseling with Latino clients. Observed counseling sessions, discussed case management, conducted relevant multicultural research, and communicated in Spanish.

Service

Program Evaluator and Data Consultant, Adelante Hispanic Achievers, Louisville, KY, June 2009-Present.

Coordinate program evaluation activities, collect and analyze data, and write yearly reports for this non-profit community organization focused on improving the academic outcomes of Latino adolescents.

Ad Hoc Reviewer, *Journal of School Psychology*, January 2011-Present.

Ad Hoc Reviewer, *Gifted Child Quarterly*, April 2011-Present.

Ad Hoc Reviewer, *Journal of Advanced Academics*, December 2011-Present.

Lecture Series Coordinator, Department of Educational and Counseling Psychology, University of Louisville, July 2011-Present.

Application-Based Professional Development

Graduate Teaching Academy, Delphi Center, University of Louisville, September 2010-April 2011.

Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) Database Training Seminar, Institute of Education Sciences, National Center for Education Statistics, July 2010.

Other Professional Development

Mplus Short Course: Multilevel Modeling of Cross-Sectional Data, Johns Hopkins University, March 2011.

Mplus Short Course: Multilevel Modeling of Longitudinal Data, Johns Hopkins University, March 2011.

Reporting Child Abuse and Neglect, Prevent Child Abuse Kentucky, February 2008.

Diversity Training Workshops, University of Kentucky Office of Multicultural Student Affairs, November 2007-December 2007.

Professional Memberships

American Educational Research Association, Graduate Student Member

- Division E (Counseling and Human Development)

Society for Research in Child Development, Graduate Student Member

American Psychological Association

- Division 5 (Evaluation, Measurement, and Statistics), Graduate Student Affiliate

Kentucky Psychological Association, Graduate Student Affiliate

Doctoral Student Organization, Department of Educational and Counseling Psychology, University of Louisville.

Credentials

Licensed Psychological Associate (License Number: KY-0913)