

TEACHER AND SCHOOL CHARACTERISTICS AS PROTECTIVE FACTORS:
AN INVESTIGATION OF INTERNALIZING AND EXTERNALIZING BEHAVIORS
AMONG RURAL, AT-RISK CHILDREN

BY

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Acknowledgement and Dedication

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Abstract

Limited research exists examining the social-emotional functioning of rural, at-risk children in addition to school characteristics that may impact behaviors. In the present study the social-emotional functioning of rural, at-risk Kindergarten students was observed in relation to various school characteristics including teacher perceptions of professional climate, opportunities for professional development and collaboration, teacher efficacy, and teacher-child relationships. The sample of students from low SES families residing within rural areas was derived from a nationally representative database (ECLS-K 2011), and yielded a sample size of 1,318. The results were analyzed using several path analyses. The analyses revealed that teacher perceptions of professional climate in addition to reported opportunities for professional development and collaboration were important to their feelings of effectiveness as a teacher (teacher efficacy). In addition, the conflict within a teacher-child relationship was significantly related to teacher ratings of internalizing and externalizing problems. Implications for the potential impact on social-emotional problems through interventions at the school and teacher level are discussed.

Chapter I: Introduction

Resilience is a word used to describe how individuals at risk can overcome adversity and display positive outcomes. Risk and protective factors are the mechanisms of resiliency; risk factors increase the susceptibility for negative outcomes and protective factors “buffer” against the impact of risk factors. Risk and protective factors can influence a person at the individual, family, or community level (Garmezy, 1974; Rutter, 1979; Rutter, 1987; Luthar, 2006).

At the community level families living in rural areas face numerous stressors related to employment, transportation and lack of mental health care (Hodgkinson, 1994; Gamm, 2003). There is added stress for those who struggle financially; socioeconomic status (SES) has been related to family disruption, including parenting concerns, mental health concerns, and parental discord. All of these factors put children at-risk for the development of social-emotional problems (Yoshikawa, Aber, & Beardslee, 2012). In addition, help-seeking behavior among individuals living in rural areas tends to be low. This may be due to the stigma surrounding mental health treatment, and the belief that problems can be solved independently among rural residents (Girio-Herrera, Owens, & Langberg, 2012; Gamm, 2003). Therefore, it appears that children from low SES families living in rural communities may be especially at risk for the development of social-emotional problems.

Early childhood social-emotional problems are often described as “internalizing” or “externalizing.” Internalizing problems, such as depression, are represented within an individual, while externalizing problems, including aggression, are seen outwardly (Achenbach, 1991). When a child displays problem behaviors as a young child, they are at-risk for developing serious mental health concerns as they age (Loeber & Burke, 2011; Loeber & Le Blanc, 1990). In school, early social-emotional problems are a serious concern, and often create

a barrier to learning. Rates of early behavioral problems tend to be more frequent in schools serving higher populations of low SES children (Gilliam, 2005).

Rural schools face numerous challenges of their own including fiscal concerns, issues with student transportation, and the recruitment and retention of quality teachers (Williams & Nierengarten, 2011; Reeves, 2003). Also rural schools struggle to make adequate yearly progress and to provide opportunities for professional development of teachers (Williams & Nierengarten, 2011). Despite these concerns, rural schools have been noted as the “center” of rural communities; thus creating an opportune place to provide protective resources to rural children and their families. In addition, due to their size rural schools provide a strong sense of community, as well as lower student-teacher ratios (Jimmerson, 2006; Pratt-Ronco, 2009). Stackhouse (2011) writes that “rural education issues impact the majority of school districts in our nation, and a significant number of teachers, yet original research into education in the rural setting, specifically, is extremely limited” (p. 26).

The impact of the school environment on children has been researched for over two decades. A synthesis of research identified (a) safety, (b) relationships, (c) teaching/learning, and (d) the institutional environment as important aspects of school climate. Positive school climates are associated with a myriad of student outcomes, including academic achievement, school connectedness, school violence, dropout rate, and social-emotional wellbeing (Cohen & Geier, 2010). The importance of school environment as a protective factor for at-risk students has also been stressed; and research further proposes that the effect can be greater for children with higher levels of risk when compared to those with lower levels (Hopson & Lee, 2011). Hopson and Lee (2011) hypothesized that more economically disadvantaged students benefit from a

supportive school climate more when compared to students of lower risk due to the lack of resources and social support found elsewhere in their lives.

Relationships between teachers and students that are characterized by a high degree of warmth and closeness, combined with low conflict have been associated with positive outcomes in early childhood (Vick, 2008; Baker, Grant, & Morlock, 2008). Miller (2008) writes that “Teachers have the power and the opportunity to foster resiliency in their students when their attitudes are reflected of caring, supporting, and nurturing actions conducive to helping students cope with adversities and have more positive educational experiences” (p. 125). However, research has suggested teacher-child relationships can act as both a protective factor and a risk factor given the nature of the relationship.

Previous research suggested that positive teacher-child relationships may buffer the effect of family risk on externalizing problem behaviors, and may also lead to positive adjustment among children at-risk (Vick, 2008; Baker, Grant, & Morlock, 2008). In addition, some research has suggested that students of higher risk showed more gains in classrooms with more emotional support compared to at-risk students in classrooms with less emotional support (Pianta & Hamre, 2005). However, negative teacher-child relationships, characterized by high degrees of conflict, may add to the susceptibility of behavior problems due to the positive association between negative teacher-child relationships and problem behaviors (Vick, 2008).

Teacher efficacy has been defined as the belief that one can carry out the tasks needed to reach a particular goal. For teachers, the goal is to accomplish desired change in student behavior or achievement (Guo, Justice, Sawyer & Tompkins, 2011; Bandura, 1993). Teacher efficacy has been related to numerous child outcomes including increased motivation and student achievement (Caprara, Barbaranelli, Steca, & Malone, 2006; Mojavezi & Tamiz, 2012).

However, less research has been done on social-emotional outcomes, and specifically, no research was found to link teacher efficacy to changes in internalizing and externalizing problems in childhood.

Jones (2011) noted that researchers are just beginning to research teacher efficacy in relation to behavioral issues in childhood. More specifically, teacher efficacy has been related to more positive teacher-child relationships (Chung, Marvin, & Churchill, 2005), more effective classroom management (Melby, 1995), teacher satisfaction (Collie, Shapka, & Perry, 2012), and more confidence and persistence in working with challenging students (Jones, 2011; Miller 1987). Teachers with low teacher efficacy are more likely to believe that even the best teaching cannot overcome the influence of a poor home environment, and may display less persistence when working with challenging students. Teacher efficacy may be situation specific and may differ among high and low SES schools. Some researchers propose that low teacher efficacy may be more prevalent in school settings with higher rates of problem behaviors (Gibson & Dembo, 1984; Miller, 1991). Therefore, such schools serving higher percentages of low SES children may house high numbers of discouraged teachers.

Given that teacher efficacy is a key attribute of quality teachers, there has been research on school aspects that are related to teacher efficacy. School-wide factors such as opportunities for professional development, collaboration, and a supportive professional climate may be important to alleviate stress and boost teacher efficacy. Research has suggested that perceived collaboration among staff members is related to higher teacher efficacy (Collie, Shapka, & Perry, 2012 & Guo, Justice, Sawyer & Tompkins, 2011). Specific to behavior, Jones (2011) found that when asked about students with behavioral issues, teachers reported higher efficacy when they perceived high collaboration and past training in behavioral management.

With regards to actual behavioral outcomes, Guo, Justice, Sawyer, and Tompkins (2011) found that student engagement was positively related to teacher efficacy, however, this effect was only found among teachers who perceived higher levels of staff collaboration. In addition, teachers' perception of professional climate has been positively related to teacher efficacy (Hoy & Wolfolk, 1993). Among preschool teachers serving disadvantaged children, teachers' sense of school community was positively related to attitude toward teaching and classroom quality (Justice & Rimm-Kaufman, 2008). Hoy and Wolfolk (1993) write that, "...perceptions of the school are instrumental in creating in teachers a sense of personal teacher efficacy, that is, a feeling that they can motivate even the most difficult students" (p. 365).

The goal of the present study is to determine the impact of various school factors on the development of social-emotional functioning in rural, at-risk children. Previous research has found that teacher-child relationships can act as both a risk and protective factor in early childhood. Although teacher efficacy has been related to more positive teacher-child relationships, more effective classroom management and more confidence and persistence in working with challenging students, it has not been examined in relation to changes in child behavior including internalizing and externalizing behaviors. In addition, professional development, collaboration, and professional climate have been related to teacher efficacy; however, the protective impact of these variables on internalizing and externalizing problem behaviors has not been examined. More specifically, these variables and their impact on internalizing and externalizing behaviors among rural at-risk children in rural schools have not been examined. Therefore, the following research questions are addressed in the current study.

- (1) How are opportunities for professional development and collaboration, in addition to professional climate, in rural schools associated with teacher efficacy among teachers working with rural, at-risk students?
- (2) What role does teacher efficacy play in the development of teacher-child relationships among teachers in rural schools serving rural, at-risk children?
- (3) How are teacher-child relationships and teacher efficacy associated with internalizing and externalizing problem behaviors among rural, at-risk Kindergarten students?

Chapter II: Review of Relevant Literature

Risk and Protective Model

Resilience is a broad term used in the literature to describe positive adjustment in the face of adversity. Its empirical roots date back to 1970's when several researchers observed that, among groups of children vulnerable to maladjustment, there were a percentage of well-adjusted children. It was not until 1987 when one researcher, Rutter, showed an interest in the mechanisms of resilience and provided the research community with a discussion of protective variables which appeared to reduce negative outcomes (Garnezy, 1974; Rutter, 1979; Rutter, 1987; Luthar, 2006). Currently, the phenomenon called resilience is now known to house two separate forces: risk and protective factors. Risk factors are mechanisms that increase susceptibility to negative outcomes while protective factors are thought to "buffer" against negative outcomes in the face of adversity. Risk and protective factors can be described at the individual, family, or community level. Today, research focuses on these varying levels of influence and more specifically, on how different risk factors coupled with certain protective factors lead to positive outcomes across time. Childhood is noted as an important time during which risk and protective factors are influential (Luthar, 2006).

Rural risk factors.

Rural communities. Great variance exists between communities labeled rural, and researchers have struggled to find a definition that captures its entirety. For instance, some definitions take into consideration only population size, whereas others include distance from metropolitan areas (Burney & Cross, 2006). Definitions of rural can vary from populations of 2,500 or less to populations of 25,000 or less. Recently, a new definition has been adopted including three categories of rural that consider only distance from urbanized area. Under this

definition, communities within five miles from an urbanized area are called Rural Fringe areas, communities from five to twenty-five miles from an urbanized area are called Rural Distant, and lastly Rural Remote communities are located more than twenty-five miles from an urbanized area. Under this definition, fifty percent of U.S. schools are considered rural (Stambaugh, 2010).

There have also been recent efforts to describe rural America that capture its diversity. Four types of communities have been identified including chronically poor, amenity rich, declining/resource dependent, and transitioning/amenity decline. The education level across generations in chronically poor rural areas is lower than other rural areas, and school quality seems to be a concern in chronically poor areas as well. Chronically poor rural areas are characterized by high rates of poverty, and unemployment and decrease in population. Forty-five percent of chronically poor rural residents have an education level of high school diploma or less, compared to 22 to 33 percent in the other rural areas (University of New Hampshire Carsey Institute, 2011). These areas also suffer from a lack of investment in their education and civic institutions. In contrast, amenity rich communities are characterized by population growth and natural amenities that attract tourists and retirees. Therefore, such communities tend to include people with relatively high education level and income (University of New Hampshire Carsey Institute, 2011). Declining resource dependent rural communities were once characterized by a strong economy and jobs in natural resource extraction, such as forestry and agriculture. However, the loss of such jobs led to a population decrease which in turn damaged the local economy. Despite this, the level of education and employment is still relatively high, and poverty is relatively low in these rural communities. Lastly, the transitioning amenity-decline rural areas have lost traditional means of employment, yet are characterized by low to moderate

population growth, relatively high employment and education level of residents (University of New Hampshire Carsey Institute, 2011).

Rural poverty and risk. Socioeconomic status (SES) is a widely recognized variable, and used in research as an indicator of risk. Low SES is predictive of social, behavioral and academic problems in children. However, it is argued that poverty itself does not lead to such problems, but rather the factors associated with poverty, such as parent wellbeing, parental discord, and disrupted parent/child relationships (Yoshikawa, Aber, & Beardslee, 2012). Specific to social-emotional outcomes, one researcher found that parental discord, psychopathology, authoritarian parenting, and low SES were risk factors for behavioral problems in children (Durlak, 1998).

In addition to SES, it is also important to consider the community environment, and how it may differ from one community to another. One researcher wrote “rural poverty is not urban poverty in a different setting” (Hodgkinson, 1994, p. 2). For example, families living in rural areas face numerous stressors including issues with employment, transportation, and lack of access to mental health services (Human & Wasem, 1991). One researcher reported that there are 91 doctors per every 100,000 people in rural areas, compared to 216 doctors in urban areas (Hodgkinson, 1994).

Mental health problems have been identified by rural leaders as one of the top five health priorities in rural areas (Gamm & Hutchison, 2010). Suicide risk for males (ages 15-24) in rural areas is higher than males in urban areas, and risk increases for all individuals as rurality increases (Singh & Siahpush, 2002). For offices of rural health, access to services for treatment of mental health problems such as depression, anxiety, and stress is a major concern (Gamm, 2003). Substance abuse is another growing concern in rural areas. The National Center for

Addiction and Substance Abuse (2000) found that rural adolescents, ages 12-13, were 29% more likely to have used alcohol, 34% more likely to have used marijuana, 52% more likely to have used cocaine, and 104% more likely to have used amphetamines in the past month when compared to their urban peers.

Not only is there significant concern for mental health problems, but also a concern regarding individual help seeking behavior. Among rural residents, there is often resistance to seek personal help, and also to seek help for children (Gamm, 2003; Girio-Herrera, Owens, & Langberg, 2012). In addition, many barriers to treatment in rural areas have been identified in the literature. The main obstacles to treatment include lack of practicing health care professionals, physical distance to treatment, financial burden, and stigma. There also tends to be a lack of anonymity in rural areas, and perceptions that mental health care is not needed which contribute to a desire to solve problem individually, without support (Gamm, 2003). Girio-Herrera, Owens, and Langberg (2012) found that the most frequent barriers to seeking treatment for rural children were, “treatment would cost too much,” and “treatment is not necessary.” Therefore, on top of the increased risk some rural children face, there may also be resistance to seek help, as well.

In sum, on top of the risk children from families with low SES are exposed to, those living in rural areas face additional challenges related to the lack of mental health services, issues related to transportation, and the stigma of receiving mental health care. When determining the protective impact of certain factors, Vanderbilt (2008) stresses the importance of carefully defining the at-risk population using more than one predictor of risk. The author points out that even though two groups may seem to have been exposed to a similar level of risk, they could in fact be very different, especially if community environments were not taken into consideration.

For example, if children are classified as at-risk solely due to low SES, the number of positive outcomes may be overestimated. Children living in rural areas, who are from families with a low socioeconomic status, are a unique and understudied population.

Social-Emotional Problems in Childhood

Internalizing and externalizing problems. Problem behaviors in childhood are often broadly categorized as internalizing and externalizing. Problems such as anxiety and depression are referred to as internalizing problems because they are expressed within an individual, and are not always visible outside of that individual. On the other hand, externalizing problems are behaviors that can be seen outside of a person, such as hyperactivity, defiance, and aggression. Both internalizing and externalizing problems in childhood are known to precede the development of psychological disorders in adolescents and adults (Achenbach, 1991).

Another lens through which this progression is examined is called the Developmental Pathways Model (Loeber & Burke, 2011; Loeber & Le Blanc, 1990). The model explains how serious problem behaviors can begin in early childhood. When a child exhibits early social-emotional problem behaviors they begin along a “pathway” that potentially leads to more serious behavioral issues, peer relational problems and mental health issues, as children age. Therefore, as children progress on the pathway, problem behaviors tend to escalate. However, increasingly fewer children escalate to the end of the pathway characterized by serious problem behaviors (Loeber, 1990). Researchers found that children who develop serious problem behaviors almost always displayed problem behaviors earlier in their childhood (Loeber & Burke, 2011; Loeber & Le Blanc, 1990). This framework, characterized by an escalation of problem behaviors, has been used explain the development of peer relational difficulties, social withdrawal, depression, and anxiety (Rubin & Mills, 1996), in addition to the development of mental health diagnoses

including disruptive behavior disorder, delinquency; conduct disorder, and antisocial personality disorder (Gorman-Smith & Loeber, 2005; Loeber & Burke, 2011). The early expression of internalizing and externalizing problem behaviors is consistently the common denominator between many mental health diagnoses in adulthood.

Associated risk factors and development. Children exposed to factors associated with poverty are at-risk for the development of social-emotional problems. One researcher noted that problem behaviors are prevalent among as much as 30% of children from low SES families (Qi & Kaiser, 2003). According to Dallaire, Cole, Smith, Ciesla, LaGrange, Jacquez et al. (2008) there are certain community, demographic, familial, and individual level factors that predict internalizing behaviors. In their study a strong relationship was found between unemployment, community poverty, and children's depressive symptoms, thus stating, "This finding clearly supports the claim that children are put at increased risk for depression by living in conditions associated with poverty" (p. 12). Rubin and Mills (1991) indicated that mothers who are exposed to stressful environments may not be as sensitive to the needs of their children which can lead to feelings of insecurity, social withdrawal, and lead to future internalizing problem behaviors.

In addition to internalizing behaviors, numerous factors related to poverty have also been associated with externalizing problem behaviors. Dodge, Pettit, and Bates (1994) found that children from lower socioeconomic status families were more likely to have been exposed to aggression, violence, as well as experience less parenting warmth. The researchers also found that the parents felt less support, greater environmental stress, and greater isolation. When children are exposed to these factors, in addition to harsh parenting, and observe aggression as a

means of problem solving, they tend to receive higher ratings of externalizing problem behaviors and peer-rated aggressive behavior from Kindergarten through third grade.

Children living in poverty are also at-risk for the co-development of internalizing and externalizing behaviors. Fanti and Henrich (2010) found that as the number of childhood risk factors increases, the chance for development of co-occurring internalizing/externalizing problems also increases. In their sample, adolescents who had a history of persistent co-occurring internalizing and externalizing problem behaviors were more likely to be rejected by their peers, and this differed from adolescents whom just demonstrated either internalizing or externalizing problems, not both. Their results also suggest that a child living in a negative home environment may have persistent externalizing problems, and either low, or average internalizing problem behaviors.

While the susceptibility of the development of social-emotional concerns among children living in poverty has been established, little is known about the prevalence of social-emotional concerns among children living in rural areas. Polaha, Dalton, and Allen (2010) hypothesized that rates of childhood social-emotional concerns would be higher in rural areas due to shortage of mental health professionals and stigma surrounding mental health treatment. Their research suggested that significant problem behaviors reported in rural Appalachian primary care settings (21%) was greater than studies of nationally representative samples (10-14%). However, the researchers recognized that this result could be due to “overuse” of primary care physicians for mental health needs due to the stigma and shortage of mental health professionals in rural areas, rather than a reflection of higher rates of mental health issues.

Another study found that 51% of a rural Kindergarten sample was identified as at-risk for emotional, behavioral, social, and adaptive problems. The researchers stated that one reason for

the high percentage was that most of the children were from families with low SES, which is a strong predictor of mental health problems. Regardless of the reason, the researchers concluded that there are substantial untreated mental health problems in rural areas and early identification and treatment is necessary (Girio-Herrera, Owens, & Langberg, 2012).

In summary, research has suggested that there are significant concerns related to the development of social-emotional problems among children of low SES families, and also among children living in rural poverty. While early social-emotional concerns have the potential to develop into serious mental health problems later on, the immediate impact is they are likely to cause serious issues in school. Social-emotional problems can disrupt learning, lead to discipline referrals, and poor elementary school outcomes.

Problem behaviors in school. In general there is an increased awareness and concern about early childhood social-emotional problems in school. Pre-school teachers report that these problems are significantly impacting students' school readiness skills. Results from a National Pre-Kindergarten Study found that expulsion rates for Pre-Kindergarten children were three times as high as older children (Gilliam, 2005). Furthermore, social-emotional behavior problems are more prevalent in schools serving children of lower SES. In an analysis of a nationally representative database, researchers found that in schools with more than 50% free, and reduced lunch rate, 11.3% of fifth grade students displayed externalizing problem behaviors, compared to 6.5% of students in schools with less than 50% free and reduced lunch rate (Ma, Truong, & Sturm, 2007). This indicates not only are children from economically disadvantaged families at-risk for the development of behavioral concerns, but that these problems are affecting children in school, and appear to occur at a higher rate in schools serving high percentages of children from low SES families.

Research has found that children who display significant problem behavior upon school entry are more likely to have behavioral issues persisting into the later grades. Children who entered school displaying high levels of externalizing problem behaviors (accounted for in this research as the top 15%) were four times as likely to have such problem behaviors in third and fifth grades; and those entering school with high internalizing problem behaviors (top 15% of sample) were three times as likely to display those behaviors in third and fifth grades (Morgan, Farkas, & Wu, 2009). This suggests that those who begin with high levels of problem behaviors tend to remain on the theoretical behavioral pathway, as described by Loeber and Burke (2011).

Given that issues tend to persist throughout elementary school, research on Kindergarten child profiles using predictors of school readiness has been conducted. Hair, Halle, Terry-Humen, Lavelle, and Calkins, (2006) wrote that four different profiles from the Kindergarten class of 1998-1999 were present and tended to predict elementary school outcomes. The types included: (1) Comprehensive Positive Development (30%), (2) Social/Emotional and Health Strengths (34%), (3) Social/Emotional Risk (13%), and (4) Health Risk (22.5%). Based on the outcomes related to these profiles the researchers concluded that between 35 to 45% of children entering Kindergarten are not prepared due to poor outcomes at the end of first grade. After controlling for Kindergarten experience the researchers found that children from either risk profile tended to have more negative outcomes at the end of first grade including low self-control and poor school performance. The authors found that children from either risk profile were from more disadvantaged families and concluded that efforts to enhance support for at-risk children in early childhood are essential (Hair, Halle, Terry-Humen, Lavelle, & Calkins, 2006).

In sum, early childhood behavioral issues among children from low SES families are significant, leading to high rates of expulsion. Behavioral concerns occur more frequent in

schools serving greater numbers of children from low SES families, and if concerns are significant upon school entry they tend to persist across elementary school leading to poor student outcomes.

Rural Schools

According to a 2007 National Center of Education Statistics (NCES) report, rural schools make up over half (55.9%) of all school districts in the United States, and one-third (31.3%) of all public schools, yet they serve only one-fifth (21.3 %) of the student population. Still, there are over 10 million students attending rural schools across the United States (Provasnik, Kewal, Ramani, Coleman, Gilbertson, Herring, & Xie, 2007). In addition there are 853,900 teachers employed in rural schools according to a report from the National Center for Education Statistics (2010). Despite a good percentage of children and teachers who attend and work in rural schools Stackhouse (2011) writes that “rural education issues impact the majority of school districts in our nation, and a significant number of teachers, yet original research into education in the rural setting specifically is extremely limited” (p. 26).

Rural schools have been thought of as the “centers” of rural communities. Furthermore, they have been identified as an opportune place for building protective factors. One researcher describes this in terms of the collective socialization theory; in which families living in communities with high levels of poverty may pull together to help each other. The researcher writes that urban families have a context, such as their neighborhood, in which they work together to build protective factors. However, the theory does not emerge in the same way among the rural poor. Instead, it is proposed that not the neighborhood itself, but rather rural schools provide the context and sense of community needed to provide protective factors (Pratt-Ronco, 2009). However, rural schools face unique challenges that may keep them from

developing the protective mechanisms necessary to buffer against the development of serious social-emotional concerns.

Rural school challenges include a declining student population, below average student achievement, issues with fiscal management, lack of school funding, lack of opportunities for professional development, transportation issues, and trouble recruiting quality teachers (Howley, 2009; Carr, 2010; Williams & Nierengarten, 2011; Reeves, 2003).

Inadequate funding is an issue faced by many schools across the country. However, in rural areas a lower population of residents contributes to a smaller amount of school taxes collected and allocated for schools. To combat this problem schools have turned to consolidation with nearby schools. Some researchers argue that this makes rural schools more ineffective because they are removed from the immediate community, and students have to travel farther. In addition, it is argued that even with consolidation, rural schools still struggle with low student population and lack of funding to provide adequate educational opportunities (Herzog & Pittman, 1995).

The recruitment and retention of educators in rural schools is also a concern. Husyman (2008) identified three types of rural teachers; those who are “homegrown,” “homegrown by time,” and those who are “transplanted.” Teachers who are “homegrown” grew up in the rural area, those labeled “transplanted” only came to the area upon their college graduation and teachers “homegrown by time” lived in the area while in college. The results of the study suggested that 89% of teacher turnover was attributed to teachers labeled as “transplanted.” The researchers indicated that “homegrown” teachers have more of a desire to remain in their rural communities as teachers.

In addition to high teacher turnover, it is also difficult for some schools to recruit teachers. According to Reeves (2003) some reasons for the difficulty to recruit teachers to rural schools include living in geographic isolation and less attractive communities, high turnover rate, higher workload, lack of opportunities for advancement and lower salaries. In addition, a lower percentage of rural school teachers reported being satisfied with their salary and earned less on average than teachers in urban and suburban areas. One report suggested that rural teacher salaries are 16.5% lower than the national average (NCES, 2007; Monk, 2007). These issues make it difficult to recruit enough teachers to rural districts, let alone recruit high quality or specialized teachers to rural districts. One study found that 51% of rural administrators reported moderate to severe difficulty with filling special education positions in their district (Berry, Petrin, Gravelle, & Farmer, 2011).

Another concern of rural school administrators is making Adequate Yearly Progress (AYP) and facilitating student achievement. With regard to AYP, The No Child Left Behind Act stated that schools must develop objectives for student progress. Progress is to be examined in terms of whole school, in addition to the progress of certain subgroups of students such as economically disadvantaged, and special education students. This places smaller districts at a disadvantage since their overall progress is based on a smaller number of students when compared to larger districts. The smaller number of students also increases the possibility that progress will vary greatly from year to year and may be due to factors out of the schools' control with issues such as a medical epidemic, or teacher turnover. Due to smaller numbers of students, rural schools are more susceptible to being labeled as schools "in need of improvement" (Reeves, 2003; Linn, Baker, & Betebenner, 2002; Monk, 2007).

Rural administrators are also concerned about the lack of opportunities for professional development and growth. Since rural schools tend to be geographically isolated, they are often located far from training institutions that are good resources for professional development. In addition, professional conferences and other opportunities for professional development are likely located far from rural schools as well, requiring teachers to travel quite a distance to receive training. Another option for providing professional development includes the use of technology such as online or distance learning training. However, it is noted that some rural schools do not have the technology and resources necessary to provide this type of professional development. In addition, distance learning has produced varying amounts of success as teachers best learn through repeated instruction and interaction with other teachers and instructors (Reeves, 2003). Although there are challenges to providing teachers with these opportunities in rural settings, professional development has been noted as an important factor to increase feelings of support and confidence for special education teachers which may lead to higher job satisfaction and less teacher turnover in rural schools (Berry, Petrin, Gravelle, & Farmer, 2011).

Some positive “givens” of rural districts include smaller student-teacher ratios and close-knit communities. Rural schools are often seen as the center of their community and may present a higher sense of belongingness and support. In addition, fewer students and lower teacher-student ratios allow for more one-on-one interaction (Jimmerson, 2006). Despite all of the issues facing rural districts, including lack of quality teachers, lack of sufficient funding to provide additional support to at-risk students, and lack of professional development, it is important to acknowledge their strengths and potential to provide protective factors to at-risk children.

Schools as Protective Factors

School environment has been a topic of study for over two decades. Research has suggested that positive school climates are related to positive student outcomes including increased academic achievement, and social-emotional wellbeing (Cohen & Geier, 2010). The Center for Social and Emotional Education released a school climate research summary in 2010; by compiling two decades of research, four areas of focus within school climate were identified including: (a) safety, (b) relationships, (c) teaching/learning, and (d) the institutional environment (Cohen & Geier, 2010). It is well established that positive school climates are associated with a myriad of student outcomes including higher academic achievement, stronger school connectedness, higher levels of social-emotional wellbeing, lower levels of school violence, and decreased dropout rates (Cohen & Geier, 2010).

The importance of school environment as a protective factor for at-risk students has been stressed; and research further proposes that the effect can be greater for children with higher levels of risk when compared to those with lower levels (Hopson & Lee, 2011). Walker, Horner, Sugai, Bullis, Sprague, Bricker et al. (1996) write:

Schools have the relatively unique ability to access the vast majority of at-risk children early in their school careers and also to marshal the resources and expertise necessary to address their problems in a coordinated fashion. In so doing, they can help reduce, eliminate, and/or buffer many of the risk factors that, if left unattended, propel young people along a path leading to a host of unfortunate outcomes, including violence and criminal behavior. (p. 195)

Durlak (1998) researched protective factors associated with common child outcomes. Supportive school climate was included as a protective factor against the development of behavior problems. Accordingly, research has demonstrated encouraging effects of school climate when taking into consideration one important risk factor, socioeconomic status. One

study in particular examined the relationship between sense of school community and student outcomes in a mixture of low, and high poverty schools. The data suggested a sense of school community was more strongly related to positive child outcomes (academic and social attitudes) in high poverty schools than low poverty schools (Battistich, 1995). More recently, researchers found that positive perceptions of school climate were more significantly associated with self-reported avoidance of problem behaviors than family poverty (Hopson & Lee, 2011). Hopson and Lee (2011) hypothesized that more economically disadvantaged students benefit from a supportive school climate more when compared to students of lower risk due to the lack of resources and social support found elsewhere in their lives.

Numerous studies have sought to identify what makes a quality classroom, and what impact a quality classroom can have on children. Masburn (2008) describes two components of classrooms identified by previous researchers including structural and process characteristics. Structural characteristics refer to aspects such as classroom size, curriculum, and teacher training/education; whereas process characteristics refer to aspects of the school experience children come across everyday including teacher-child relationships and implementation of class activities. The researcher argues that process characteristics are more important than structural characteristics when it comes to predicting classroom quality because process characteristics are more reflective of specific practices within the classroom (Masburn, 2008; Philips & Howes, 1987; Vandell & Wolfe, 2000). One process characteristic related to child outcomes includes teacher-child relationships.

Teacher-child relationships. Kindergarten children who display internalizing and externalizing problem behaviors are at-risk for the development of negative teacher-child relationships (Buysee, Verschueren, Doumen, Van Damme, & Maes, 2008). However, research

has suggested that quality teacher-child relationships characterized by emotional support and warmth have been shown to produce positive outcomes in students. Miller (2008) writes that “Teachers have the power and the opportunity to foster resiliency in their students when their attitudes are reflected of caring, supporting, and nurturing actions conducive to helping students cope with adversities and have more positive educational experiences” (pg. 125).

Silver, Measelle, Armstrong, and Essex (2004) examined changes in externalizing problem behaviors associated with teacher-child relationships from kindergarten through third grade. They found that teacher-child relationships were most important in predicting behavioral trajectories for children with the highest levels of initial externalizing behaviors. More specifically, children whose teacher-child relationships were characterized by high degrees of closeness tended to display significant decreases in externalizing problem behaviors over time.

Research has suggested that quality teacher-child relationships also play a protective role in the development of internalizing problem behaviors. O’Conner (2011) found that children with initially high levels of internalizing problem behaviors who had positive teacher-child relationships rated levels of internalizing behaviors comparable to their peers with initially low levels of internalizing behaviors in the fifth grade. The researchers indicated that children with internalizing problems may gain more positive views of themselves through quality teacher-child relationships (O’Conner, 2011).

However, it should be noted that teacher-child relationships can also act as a risk factor for social-emotional development. One researcher found that although positive teacher-child relationships may buffer the effect of family risk on externalizing problem behaviors, negative teacher-child relationships characterized by conflict may add to the susceptibility of behavior problems (Vick, 2008). In addition another study found that low levels of closeness also

predicted increases in externalizing problem behaviors over time (Silver, Measelle, Armstrong, & Essex, 2004).

Despite the hope for positive outcomes, there are conflicting results about the extent of influence of teacher-child relationships with various outcomes of at-risk students compared to students not at risk. Some research has found that regardless of child background, more positive teacher-child interactions were associated with better academic outcomes suggesting that positive teacher-child relationships may benefit all children equally (Mashburn, 2008). However, other research has suggested that students of higher risk showed more gains in classrooms with more emotional support compared to at-risk students in classrooms with less emotional support (Pianta & Hamre, 2005) and that students at-risk showed more positive school adjustment when relationships with teachers were characterized by emotional support, warmth and low degree of conflict (Baker, Grant, & Morlock, 2008).

Specific to rural schools, Merritt, Waneless, Rimm-Kaufman, Claire, and Peugh, (2012) found that emotional support from teachers affected students similarly across levels of risk among first grade students attending rural schools. The research suggested that children in classrooms characterized by quality teacher-child relationships had higher rates of behavioral control and lower rates of aggression regardless of socioeconomic risk. While the researchers identified their sample of rural students as a limitation, they did not consider it as a possible contributor to their results given that rural schools differ greatly from schools located in other locales. For instance, upon considering the struggles rural schools face, it may be important to study factors outside of the classroom as well. Beyond the processes of the classroom, teacher and school level characteristics, such as teacher efficacy, opportunities for collaboration and

professional development, as well as professional climate may be important factors to consider as well.

Teacher efficacy. Teacher efficacy has been defined as the belief that one can carry out the tasks needed to reach a particular goal, in this case, accomplishing the desired changes in student behavior or achievement (Guo, Justice, Sawyer, & Tompkins, 2011; Bandura, 1993). Gibson and Dembo (1994) first sought to conceptualize the construct of teacher efficacy. They proposed that there are two dimensions of efficacy including personal teacher efficacy and general teacher efficacy.

Personal teacher efficacy describes the personal feelings attributed to creating student success, or teachers' beliefs that their own actions create change in student learning or behavior. For example, teachers with low personal teacher efficacy may feel that they are personally unable to create lessons to teach difficult students. On the other hand, general teacher efficacy describes teachers' general feelings about the relationship between teaching and learning, and tends to focus on external reasons for creating change in student behavior. For example, teachers with low general teacher efficacy may feel that a students' home environment contributes more to their academic achievement than school experiences (Gibson & Dembo, 1994). High teacher efficacy has been related to higher student achievement, motivation, and success (Caprara, Barbaranelli, Steca, & Malone, 2006; Mojavezi & Tamiz, 2012); more positive teacher-child relationships (Chung, Marvin, & Churchill, 2005); more effective classroom management (Melby, 1995); greater teacher satisfaction (Collie, Shapka, & Perry, 2012); and, most importantly more confidence and persistence in working with at-risk children and children with social-emotional behavior problems (Miller, 1987; Jones, 2011).

Teachers with high teacher efficacy appear to have more positive perceptions of challenging students when compared to teachers with low efficacy. One researcher found that teachers with higher efficacy were less likely to view clinical externalizing problems as chronic and persistent and tended to be more confident in their ability to manage student misbehavior (Jones, 2011). Teachers with higher efficacy were also likely to use more positive language when describing challenging students when compared to teachers with low efficacy. For example, they would speak of the students as capable and wanting to learn, whereas teachers with low efficacy described challenging students as lacking motivation and having attitude problems (Miller 1987).

In addition, research has also shown that teacher efficacy is related to teaching approaches. One researcher found that teachers with lower efficacy were more likely to use restricted interventions for misbehavior, such as using a sharp voice to publically reprimand, or send the child to the principal's office, whereas teachers with higher teacher efficacy were more apt to use praise, reinforcement, or other positive behavior strategies (Melby, 1995; Brophy & McCaslin 1992). In addition, teachers with high efficacy were more able to describe a greater number of strategies to combat issues in the classroom and were likely to spend more time planning instruction (Miller 1987).

Teacher efficacy is also related to increased persistence in working with challenging students. Teachers with high teacher efficacy tend to feel more responsibility for the success of challenging students (Miller 1987; Almog & Schechtman 2007). Teachers with low teacher efficacy are more likely to believe that even the best teaching cannot overcome the influence of a poor home environment. In turn, teachers with low efficacy display less persistence when working with disadvantaged populations. Some researchers propose that low teacher efficacy may be more prevalent in school settings with higher rates of problem behaviors (Gibson &

Dembo, 1984; Miller, 1991). Therefore, such schools serving higher percentages of low SES children may house high numbers of discouraged teachers. In sum, teachers with high efficacy may hold more positive perceptions of challenging students, alter their approach to reach those challenging students, and consequently display more persistence in working with those children.

Broader school factors have been shown to influence teacher efficacy. Jones (2011) investigated factors that affected levels of efficacy specifically regarding students with behavioral problems. The researcher found that teachers who perceived support, as well as had past training in behavioral management, reported higher levels of efficacy in the face of dealing with students with behavioral issues. This stresses the importance of examining not only feelings of efficacy, but also if teachers have the tools and support necessary to create change in their students. In addition, previous research has suggested that teachers who feel more stress in relation to behavioral issues scored lower on measures of teacher efficacy (Collie, Shapka, & Perry, 2012; Klassen & Chiu, 2011). School-wide factors such as opportunities for professional development and collaboration and a supportive professional climate may be important to alleviate stress and boost teacher efficacy.

Professional development and collaboration. Professional development is an opportune way for administrators to provide teachers with additional skills and knowledge. Professional development and training have been noted as a significant need in schools with regards to challenging students. Many teachers believe pre-service training did not adequately prepare them to work with behaviorally challenging students (Egyed & Short, 2006). However, it appears the rates of previous training vary greatly across studies. Egyed and Short (2006) reported around half of their participants took one college course in behavior management, while Jones (2011) found that only 11% of participants received such training in college, and 38%

received training through professional development. Still, the need for training is stressed in the research; in a survey of preschool staff, the need for more training related to classroom management and positive behavior support was indicated as a top need for teachers (Snell, Berlin, Voorhees, Stanton-Chapman, & Hadden, 2011).

In rural schools, professional development and training may be especially important. Given the shortage of quality teachers, rural school administrators may hire teachers with less than optimal qualifications. This is especially true with special education services. Due to lower incidence of disabilities, rural special education teachers may educate a group of children with a wide age range in the same classroom. In addition, administrators may opt to educate more special education students in an inclusion setting which may lead to regular education teachers feeling ill prepared. Research has suggested that topics including low incidence disabilities, emotional and behavioral disorders, and classroom management are important for professional development in rural schools. In addition, professional development may increase teacher's sense of support and job satisfaction leading to less teacher turnover in rural areas as well (Berry, Petrin, Gravelle, & Farmer, 2011).

Administrators in rural areas have identified providing professional development for teachers as a significant concern. College universities and training institutions ideal for professional development are often located too far away to require teachers to travel. In addition, schools may not have the resources available to provide professional development through distance learning (Williams & Nierengarten, 2011).

With regard to collaboration, Huysman (2008) stressed that to prevent teacher turnover, rural administrators should enhance teacher job satisfaction through providing opportunities for professional development and creating a climate that encourages collaboration between teachers.

Some challenges to collaboration in rural schools have been exposed in the literature. However, research suggested there are differing perspectives on collaboration even within schools. In a qualitative analysis of perceptions of collaboration in one small school, Stackhouse (2011) found that collaboration was difficult in rural schools if the school was comprised of only one teacher per grade level. However, other teachers reported that collaboration is easier in rural schools because of the close knit relationships between teachers and ease of face-to-face contact due to physical size of the school. The researcher concluded that effective collaboration contributed to job satisfaction.

Research has also suggested that perceived collaboration among staff members is related to higher teacher efficacy (Collie, Shapka, & Perry, 2012 & Guo, Justice, Sawyer & Tompkins, 2011). However, teacher efficacy may be mediated by collaboration and training. One study suggested that teachers reported higher feelings of efficacy, when specifically asked about students with behavioral issues, if they perceived support and had past training in behavioral management (Jones, 2011). Guo, Justice, Sawyer, and Tompkins (2011) also examined this mediating effect when researching preschool classroom engagement on self-efficacy and collaboration. They found that engagement was positively related to self-efficacy, however, this effect was only found among teachers who perceived higher levels of staff collaboration. This suggests that feelings of efficacy may be moderated by the opportunities for staff collaboration in schools and stresses the importance of collaboration as a significant contributor to student outcomes in addition to teacher efficacy.

Professional climate. In addition to training, and support from colleagues, another school wide factor that influences teaching is support from administrators, and sense of a positive school community. Positive views of professional climate have been related to teacher efficacy.

Bandura (1997) stressed the importance of leadership and professional climate as related to teacher efficacy and student achievement outcomes. In the study involving both high and low performing schools, Bandura found several factors that were present in effective schools including, quality principal leadership, high academic standards, classroom management of behavior, and mastery-oriented instruction. According to Bandura, teachers in effective schools set high goals for students and believe they can achieve them; principals in effective schools look for ways to address the needs of their school even in the face of certain obstacles. He also noted that principals are key to improving the teacher efficacy in their schools.

In their study with teachers from 37 elementary schools in New Jersey, Hoy and Wolfolk (1993) also found that the professional climate of a school contributes to teacher efficacy. The results indicated that teachers reported higher efficacy when they perceived their colleagues set high, but achievable goals, created an orderly environment, and respected academic excellence, in addition to the belief in principal leadership and influence. The researchers write that, "...perceptions of the school are instrumental in creating in teachers a sense of personal teacher efficacy, that is, a feeling that they can motivate even the most difficult students" (p. 365).

Given that positive views of school community, and administrator support are related to teacher efficacy it makes sense that these factors would indirectly relate to classroom quality. Justice and Rimm-Kaufman (2008) looked more closely at teachers' sense of school community using 68 preschool teachers serving economically disadvantaged children. They utilized two commonly researched dimensions reflecting teachers' sense of school community (teacher collegiality and teacher influence) and examined their relation to classroom quality and attitude toward teaching. The results indicated that sense of community was positively related to attitude toward teaching and classroom quality. On a more specific level, both collegiality, and influence

were related to attitude toward teaching; however, level of influence was the only indicator related to classroom emotional support. These findings highlight the importance of teacher support and empowerment as important predictors of classroom quality.

One study suggests that other school factors may be related to perceptions of school community including school size. Battistich (1997) found that school size was an important predictor for teachers' sense of school community. In their sample of schools with size ranging from around 300 to 1,000 students, they found that teachers reported more sense of school community in schools with more students. The researchers suggest that bigger schools may provide a larger teacher support network leading to more positive views of school community (Battistich, Solomon, Watson, & Schaps, 1997).

In rural schools, professional climate appears to be an important predictor of teacher wellbeing. In a qualitative analysis of rural collaboration, Stackhouse (2011) found that good administrative support was reflected by a principal who was open, interested in what teachers have to say, and willing to consider and discuss issues. The researcher concluded that teachers had higher job satisfaction when they felt heard. Huysman (2008) stressed that to prevent job dissatisfaction, and teacher turnover in rural schools, administrators should support teachers and involve them in decision making.

In summary, professional development, collaboration, and feelings of positive school climate have been noted as important factors related teacher efficacy. In turn, higher teacher efficacy is related to more positive student outcomes, and more persistence in working with challenging children. However, despite the connection it appears that there is a limited research base on professional support, professional development, and teacher efficacy specifically related to teacher-child relationships and child social-emotional outcomes. Based on the review of the

literature it appears that these variables may interact to create a buffer against the development of social-emotional concerns among those at-risk.

Summary and Statement of Research Need

Behavioral problems in early childhood are a major barrier to school readiness and are even more prevalent in children living in poverty, with rates up to 30% (Gilliam, 2005). In addition, early internalizing and externalizing behavior problems can lead to serious mental health concerns as children age (Loeber, 1990; Gorman-Smith, & Loeber, 2005; Loeber & Burke, 2011; Rubin & Mills, 1991). Research on the protective nature of schools in early childhood has suggested that positive teacher-child relationships characterized by low conflict and high levels of closeness (Masburn, 2008; Pianta & Hamre, 2005; Silver et al., 2005; O'Conner et al., 2011) may provide a buffer for the development of behavioral problems.

Teacher efficacy has been defined as the belief that one can carry out the tasks needed to reach a particular goal, in this case accomplishing the desired changes in student behavior or achievement. Teacher efficacy has been correlated with more effective classroom management, positive teacher-child relationships and more confidence in the ability to handle problem behaviors (Melby, 1995, Chung, Marvin & Churchill, 2005; Jones, 2011; Snell, Berlin, Voorhees, Stanton-Chapman & Hadden, 2011). In addition, factors such as professional development, collaboration and professional climate have been related to teacher efficacy (Collie, Shapka & Perry, 2012 & Guo, Justice, Sawyer & Tompkins, 2011 & Jones, 2011). Specific to behavioral outcomes Jones (2011) found that teachers rated higher efficacy when they received past training in behavioral management and high levels of collaboration with their colleagues.

Based on the review of the literature it appears that variables such as teacher-child relationships in addition to factors outside of the classroom including collaboration and professional development, professional climate, and teacher efficacy may interact to serve as robust protective mechanisms for children at-risk. However, these variables have yet to be examined in this nature, especially with rural, at-risk children. Although it appears that teacher efficacy could possibly serve as a protective factor to buffer against social-emotional problems, the association between teacher efficacy and internalizing (e.g., anxiety and withdrawal) and externalizing (e.g., aggression) behaviors in early childhood has yet to be researched.

Rural schools and rural families both have a unique set of characteristics in comparison to families and schools in other locales. Rural schools face numerous challenges of their own including fiscal concerns, student transportation, the recruitment and retention of quality teachers, making adequate yearly progress, and providing opportunities for the professional development of teachers. Despite these concerns, rural schools have been noted as the “center” of rural communities; therefore, they are an opportune place to provide protective resources to rural children and their families. In addition, due to their size rural schools provide a strong sense of community and lower student-teacher ratios (Howley, 2009; Carr, 2010; Jimmerson, 2006; Williams & Nierengarten, 2011; Reeves, 2003).

Stackhouse (2011) writes that “rural education issues impact the majority of school districts in our nation, and a significant number of teachers, yet original research into education in the rural setting specifically is extremely limited” (p. 26). According to Vanderbilt (2008) research tends to group together students of mixed risk factors, or match children based on one risk factor, leading to the overestimation of positive outcomes. In order to examine the many interacting dimensions within a school that may have an effect on a child at-risk, children should be

carefully selected based on several risk factors. The current research study examined children living in rural communities, who are of low SES families, and attend rural schools. By selecting children with similar levels of risk, attending rural schools with similar challenges, the present study aims to answer the following research questions.

- (1) How are opportunities for professional development and collaboration, in addition to professional climate in rural schools associated with teacher efficacy among teachers working with rural, at-risk students?
- (2) What role does teacher efficacy play in the development of teacher-child relationships among teachers in rural schools serving rural, at-risk children?
 - a. How is teacher efficacy related to teacher-child relationships measured by closeness between teachers and rural, at-risk Kindergarten students?
 - b. How is teacher efficacy related to teacher-child relationships measured by conflict between teachers and rural, at-risk Kindergarten students?
- (3) How are teacher-child relationships and teacher efficacy associated with internalizing and externalizing problem behaviors among rural, at-risk s Kindergarten students?
 - a. How are teacher-child relationships measured by closeness associated with internalizing and externalizing problem behaviors across rural, at-risk students' Kindergarten year?
 - b. How are teacher-child relationships measured by conflict associated with internalizing and externalizing problem behaviors across rural, at-risk students' Kindergarten year?

- c. How are teacher reported feelings of efficacy associated with internalizing and externalizing problem behaviors across, rural, at-risk students' Kindergarten year?

Chapter III: Method and Procedures

Database Overview

The current study used data from the base year, Kindergarten cohort, of the Early Childhood Longitudinal Study, ECLS-K 2011. The ECLS-K 2011 is sponsored by the National Center for Education Statistics (NCES). It is a longitudinal study that is following a nationally representative cohort of children from their Kindergarten year (fall 2011) through fifth grade (spring 2016). During the base year, approximately 18,000 children from 970 schools participated. ECLS-K 2011 collected information from parents and educators pertaining to student experiences, and their cognitive, social-emotional, and physical development (Tourangeau, Nord, Sorongon, Hagedorn, Daly, & Najarian, 2012).

ECLS-K 2011 database sample selection. The ECLS-K 2011 participants were sampled using a multistage sampling design which is a form of cluster sampling. In the first stage, 90 primary sampling units consisting of counties and county groups were randomly selected from a national sample of primary sampling units. Secondly, within the 90 primary sampling units, schools (both public and private) were selected if they had a class of Kindergarten or children of Kindergarten age enrolled in were selected. More specifically, each school was selected from a database of public and private schools housed by the National Assessment of Educational Progress (NAEP). Public schools were selected from the NCES Common Core of Data Universe File (2006-2007), and private schools were selected from the Private School Survey (2007-2008). Third, approximately 23 Kindergarten students from each of the chosen schools were selected to participate. However, public schools with fewer than 23 children and private schools with fewer than 12 children were clustered together for sampling to give small schools a better chance for selection (Tourangeau et. al., 2012).

ECLS-K 2011 sample weight development. Since children were selected using the multistage cluster method previously described and not through true random selection, sample weights were developed to mathematically adjust for effects of factors including teacher, school, before and after school care, as well as child and parent nonresponse. The sample weights were developed using a multistage method. First, weights equal to the inverse probability of the selection of primary sampling units were assigned. Next, weights for each of the schools sampled were determined by multiplying the first primary sampling unit weight by the inverse of the probability that a school was selected from the primary sampling unit. Then, a base weight for individual students was computed by multiplying a school nonresponse base weight by a within school student weight. There was an oversampling of Asian/Pacific Islander students, and to account for that, the within school student weight was computed differently for this population; the total number of Asian/Pacific Islander students in a school divided by the number of non-Asian/Pacific Islander students in Kindergarten (Tourangeau et al., 2012).

Due to unequal chances of sample selection, sample weights are important when making estimations to the general population to reflect random selection. However, the aim of the current study was to examine casual effects and not to make population estimates, therefore, sample weights were not used in the analyses.

ECLS-K 2011 data collection. During the base year (2010-2011), when participating students were in Kindergarten, data were collected in the fall and spring. Direct child assessments for the fall were collected between the months of September and December of 2010 with two-thirds of the assessments collected by the end of October. Fall parent interviews were completed from September to January. In the spring, direct child data were collected starting in late March through June 2011. Parent interviews for the spring were conducted from March

until July. Parent interviews were mostly conducted over the phone; however, some were conducted in person if the parent preferred it or if circumstances prohibited a telephone interview. Interviewees asked for the person in the household who knew the most about the child's education, health, and child care (Tourangeau et al., 2012).

ECLS-K 2011 Data collection questionnaires. The information used for this study was gathered from the Teacher-level and Child-level Teacher Questionnaires. The ECLS-K 2011 used the Teacher-level Questionnaires to gain information regarding the classroom and instructional practices, as well as teacher characteristics. The questionnaire contained questions about classroom characteristics including schedules, classroom materials, and instructional practices. The questionnaire also included questions about teacher background, experience, school climate, and attitude toward teaching. In contrast, the Child-level Questionnaire was designed to collect information specifically about each student participating in the study. On the questionnaire teachers were asked questions about each child related to his/her academic and cognitive abilities, behaviors, social skills, and relationships.

Research Design and Preliminary Analyses

Participant selection. To reflect the population of interest, the current study selected a subset of participants from the ECLS-K 2011 dataset. The selected subset included participants of low socioeconomic status (SES) who resided in a rural location.

A household-level poverty variable was used to identify participants as low SES. The composite variable is based on the number of people living in the household, as well as household income. Households with a total income that fell below the poverty threshold, in addition to households with a total income below 200 percent of the poverty threshold, were included in the subset.

Rural location was defined using NCES Common Core Data new Urban-Centric locale codes developed in 2006. The codes take into consideration distance from urbanized area with a densely populated center, in addition to population. The new codes allow for more precision when describing locale. Rural areas are broken into subcategories based on their distance from the urbanized area. The subcategories include rural-distant, rural-remote, and rural-fringe (Tourangeau et. al., 2012). The total number of participants living in all rural areas in the ECLS-K 2011 dataset was 3,885. Children from schools in all three rural subcategories were selected for the current study. Thus, for the current study, the total number of rural schools sampled was 286, and the total number of rural, at-risk students sampled was 1,318.

Participant demographics. Of the 1,318 participants in the sample, 49.2 % attended a school that was located in a rural, fringe community (rural territory less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster); while 37.3 % were from a rural, distant community (more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster). The remaining 13.6 % were from rural, remote communities more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster). The majority, 63.6 %, of the participants were sampled from the South, as noted in table 3, while 15.3 % were from the Midwest, 14.3 % from the West, and 6.8 % from the Northeast region of the country.

The participants were purposefully selected to reflect a population of children from low socioeconomic status families. Specifically, 45 % of the participants SES fell below the federal poverty threshold, whereas the remaining 55 % of participants were at or above but still below 200 percent of the poverty threshold. Fifty-one percent of participants were identified as males

and 49 % were identified as females. The majority of participants, 63.3 %, were identified as White, followed by 18.1 % Hispanic, 10.5 % Black/African American, 1.9 % Asian and 1.5 % American Indian/ Alaskan Native.

Internalizing and externalizing problems. A preliminary analysis on the levels of internalizing and externalizing problems of the rural, at-risk sample was also conducted. A paired samples t-test was used to analyze the level of problem behaviors of the rural, at-risk sample, in comparison to the whole ECLS-K 2011 national sample. This comparison allows for the investigation of whether problem behaviors were significantly higher for the sample of rural, at-risk students. The t-test revealed that both internalizing [$t(961) = 3.287, p = .001$] and externalizing problem behaviors [$t(961) = 2.687; p < .05$] as reported by teachers in the fall of Kindergarten were significantly higher for the rural, at-risk sample when compared to the ECLS-K 2011 nationally representative sample.

Variables

Variables in the current study included individual student characteristics, as well as teacher and school characteristics displayed in the table B-2 located in Appendix B. Dependent variables included internalizing and externalizing behaviors as rated by teachers in the fall of students' Kindergarten year. Independent variables included, professional climate, professional development and collaboration, teacher efficacy, teacher-child relationship (closeness) and teacher-child relationship (conflict). Several variables were measured by scales within the ECLS-K 2011 dataset including measures of internalizing and externalizing behaviors in addition to measures of closeness and conflict within the teacher-child relationship. Additional variables were measured using scales that were created by the researcher.

Scale descriptions and development.

Professional climate. Seven items from the Teacher-level Questionnaire were used to develop a scale reflecting teacher perceptions of professional climate as shown in Appendix A. Example items included, “I feel accepted and respected as a colleague by most staff members,” and “there is broad agreement among the entire school faculty about the central mission of the school.” The response scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*). Scale items were collected from teacher questionnaires during the spring of the base year. The scale was created by totaling the sum of responses and computing the average of all items.

A Chronbach Alpha analysis of the seven items revealed strong internal consistency ($\alpha=.903$). To assess the dimensionality of the seven items, a Principal Components Analysis (PCA) was conducted using Varimax Rotation. After examining the scree plot and the rotated components matrix, a single factor emerged indicating that these items measure a single construct. The items explained 65.831% of the variance in the data.

Professional development and collaboration. Ten items were chosen from the Teacher-level Questionnaire to reflect the degree of perceived professional development and collaboration as shown in Appendix A. Teachers responded to items determining the extent to which they believe professional development and collaborative efforts take place within their school. Sample items included how often a teacher “attended workshops involving study groups or small-group problem solving,” how often “peer observation and feedback” took place, in addition to whether there was participation in various professional development activities. Teachers responded to these items using two different response scales. To denote how often collaboration activities took place the response scale ranged from 1 (*never*) to 6 (*daily*). Each teacher responded using 1 (*no*) and 2 (*yes*) to indicate whether they participated in various activities for professional development. To combine items with differing response scales into

one scale the total of responses was taken of questions with a six point response scale and that total was divided by three. Once the response scales were compatible, the average of all items was used to represent the Professional Development and Collaboration scale score.

To assess the dimensionality of the ten items, a Principal Components Analysis was conducted using Varimax Rotation. After examining the scree plot and the rotated components matrix, two factors emerged indicating that these items measure more than one construct as shown in Table 3 of Appendix B. The first component included questions related to opportunities for professional development and collaboration which excluded professional development via distance learning and workshops on using technology. The second component revealed high factor loadings for items including technology such as distance learning and workshops on using technology. After a review of internal consistency the decision was made to include all original items in the scale. A Chronbach's Alpha analysis revealed strong internal consistency for the scale ($\alpha=.867$).

Teacher efficacy. Fifteen items from the Teacher-level Questionnaire were chosen to measure teacher efficacy or teachers' feelings of effectiveness and ability to create desired change in students as shown in Appendix A. Sample items included: "by trying a different teaching method, I can significantly affect a student's achievement," and "there is really very little I can do to ensure that most of my students achieve at a high level." The response scale ranged from, 1 (*strongly disagree*) to 5 (*strongly agree*). The scale was created by summing all item responses and computing the average.

To assess the dimensionality of the fifteen items, a Principal Components Analysis was conducted using Varimax Rotation. After examining the scree plot and the rotated components matrix, three factors emerged indicating that these items measure a more than one construct as

displayed in Table 4 of Appendix B. The first component included questions related to general teaching efficacy describing teachers' general feelings about the relationship between teaching and learning and a focus on external reasons for creating change in student behavior. The second and third components appeared to reflect personal teaching efficacy including questions that represent personal factors that could lead to change in student behavior. After an analysis of internal consistency the decision was made to include all 15 items within the teacher efficacy scale to represent an overall measure of general and personal teaching efficacy. A Chronbach's Alpha analysis revealed strong internal consistency for this scale ($\alpha=.887$).

Teacher-child relationship. The teacher-child relationship variable contained two scales to reflect both the "closeness" and "conflict" within a teacher-child relationship. The scale was adopted by ECKLS-2011 from Pianta and Steinberg (2001). The measure of closeness reflects the degree of affection, warmth, and open communication that a teacher experiences with the student using seven items. The conflict subscale is a measure of the negative and conflictual aspects of the teacher's relationship with the student using eight items. All scale items are presented in Appendix A. Teachers were asked to indicate the degree to which each statement applied to their relationship with each child using a 5-point scale ranging from 1 (*definitely does not apply*) to 5 (*definitely applies*). The sum of all items on each scale was taken and an average for each scale was computed that reflects higher degrees of warmth corresponding to higher closeness scale scores and higher degrees of conflict corresponding to higher conflict scale scores. According to the ECLS-K 2011 Kindergarten Data User's Manual, the closeness scale has a reliability estimate of .89 and the conflict scale also has a reliability estimate of .89. Teacher responses to individual items were not available on the ECLS-K 2011, and therefore reliability analyses were not conducted for the specific subsample in the current study.

Internalizing and externalizing problems. For the present study, outcome variables included internalizing and externalizing problem behaviors. These behaviors were assessed through teacher rating scales (TRS) included within the ELCS-K 2011. The questions used to create the scales were copied verbatim from the Social Skills Rating System (SSRS; Gresham & Elliott, 1990).

The SRSS has demonstrated robust psychometric properties. As reported in the user manual the internal consistency coefficient is .78 for the Internalizing Problems subscale, and .88 for the Externalizing Problems subscale. To examine external criterion validity, the SRSS Internalizing Problems subscale was moderately correlated with the Internalizing Problem Behavior scale on the Child Behavior Checklist (CBCL) ($r=.59$), and the SRSS Externalizing Problems subscale was highly correlated with the Externalizing Problems behavior scale on the CBCL ($r=.75$) (Gresham & Elliot, 1990).

The SRSS Internalizing Problem Behavior scale, adopted for use by the ECLS-K, consisted of six items including “appears lonely” and “acts sad or depressed” as displayed in Appendix A. The Externalizing Problem Behavior scale, adopted for use by the ECLS-K, consisted of six items as shown in Appendix A. Some items include, “threatens or bullies others” and “fights with others.” When the scales were adopted by the ECLS-K, an expanded response scale was used ranging from 1 (*never*) to 4 (*very often*). The scale score was created by totaling the responses and computing the average of all items. Given that the ECLS-K 2011 reported the average of all responses and did not provide responses specific to each item a reliability analysis could not be conducted to examine the internal consistency of SRSS items specific to the sample in the current study.

Analyses

Using the Mplus data analysis program, two path analyses were conducted of teacher and school factors as related to teacher ratings of rural, at-risk students' internalizing and externalizing behaviors in the spring of their Kindergarten year. A path analysis was determined to be the most appropriate type of analysis for the current study due to the nature of the hypotheses suggesting a linear impact from the left to the right of the model (as shown in Appendix C).

The current study considered various school and teacher characteristics as possible influences on behavioral problems among rural, at-risk children. As presented in the conceptual model (Appendix C), school wide factors including teacher perceptions of professional climate and their opportunities for professional development and collaboration were placed at the far left of the model since they are considered the farthest removed from everyday interactions between teachers and children. Professional climate and professional development and collaboration have been known to affect teachers' feelings of efficacy and thus, teacher efficacy is presented next (right of professional climate and professional development and collaboration) in the conceptual model. Teacher-child relationships in turn have been related to feelings of teacher efficacy and therefore, both the closeness and conflict within a teacher-child relationship is presented next in the model. Lastly, at the far right of the model, are the outcome variables, including internalizing and externalizing behaviors.

The direct relationships between professional climate and the outcome variables (internalizing and externalizing problems), the direct relationship between professional development and collaboration and the outcome variables was also observed. In addition, teacher efficacy and its direct relationship to the outcome variables were also investigated. Internalizing and externalizing problem behaviors rated in the fall of Kindergarten were also

included in the model. Specifically, fall problem behaviors and their direct relationship to spring problem behaviors were observed, in addition to fall problem behaviors and their relationship to ratings of teacher-child relationship.

To examine the hypotheses the following relationships were observed: the relationship between teacher-child relationship and behavior ratings in the spring, the relationship between teacher efficacy and the teacher-child relationship, the relationship between perceptions of professional development and teacher efficacy, and lastly, the relationship between perceptions of professional climate and teacher efficacy were observed.

Chapter IV: Results

The following chapter will provide the results of the analyses to address the following research questions, examining the relationship between teacher and school climate factors in rural schools, on the social-emotional functioning of children in Kindergarten.

- (1) How are opportunities for professional development and collaboration, in addition to professional climate in rural schools associated with teacher efficacy among teachers working with rural, at-risk students?
- (2) What role does teacher efficacy play in the development of teacher-child relationships among teachers in rural schools serving rural, at-risk children?
 - a. How is teacher efficacy related to teacher-child relationships measured by closeness between teachers and rural, at-risk Kindergarten students?
 - b. How is teacher efficacy related to teacher-child relationships measured by conflict between teachers and rural, at-risk Kindergarten students?
- (3) How are teacher-child relationships and teacher efficacy associated with internalizing and externalizing problem behaviors among rural, at-risk Kindergarten students?
 - a. How are teacher-child relationships measured by closeness associated with internalizing and externalizing problem behaviors across rural, at-risk students' Kindergarten year?
 - b. How are teacher-child relationships measured by conflict associated with internalizing and externalizing problem behaviors across rural, at-risk students' Kindergarten year?
 - c. How are teacher reported feelings of efficacy associated with internalizing and externalizing problem behaviors across, rural, at-risk students' Kindergarten year?

The first research question examined how teacher perceptions of their opportunities for professional development and collaboration, in addition to their perceptions of professional climate were associated with teacher efficacy. Professional climate was significantly positively associated with professional development ($\beta=.421$; $p<.001$). In addition, perceptions of professional development ($\beta=.163$; $p<.001$) and professional climate ($\beta=.632$; $p<.001$) were significant predictors of teacher efficacy suggesting that higher ratings of professional climate and professional development and collaboration were associated with higher ratings of teacher efficacy. An analysis of indirect effects revealed that both professional development and collaboration ($\beta=-.081$; $p<.05$) and professional climate ($\beta=-.071$; $p<.01$) had significant indirect negative effects on the closeness within a teacher-child relationship through ratings of teacher efficacy. Professional development and collaboration's indirect effect in relation to its direct effect on the closeness within a teacher-child relationship appear to be opposite. The direct effect reflects a significant positive relationship while the indirect effect through teacher-efficacy suggests a negative effect.

Examination of the second research question, what role does teacher efficacy play in the development of teacher-child relationships among teachers in rural schools serving rural, at-risk children, also yielded significant results. Teacher efficacy was significantly negatively related to the closeness within a teacher-child relationship ($\beta=-.113$; $p<.01$), suggesting that more positive ratings of teacher efficacy were associated with lower degrees of closeness within a teacher-child relationship. There was no significant relationship between the measure of conflict within a teacher-child relationship and teacher efficacy.

To answer the third research question the relationship between the teacher-child relationship and teacher ratings of internalizing and externalizing problem behaviors was examined. A

significant positive relationship was found between the measure of conflict within a teacher-child relationship and spring ratings of both internalizing ($\beta=.088$; $p<.01$) and externalizing ($\beta=.423$; $p<.001$) problem behaviors. This suggests that teacher ratings of higher conflict within a teacher-child relationship were associated with higher ratings of internalizing and externalizing problem behaviors in the spring. However, the closeness within a teacher-child relationship was not significantly related to internalizing or externalizing behavior ratings in the spring suggesting that the closeness within a relationship was not a significant predictor of problem behaviors rated in the spring. An analysis of indirect effects revealed that the indirect effect of fall externalizing behaviors on spring externalizing behaviors was significant, specifically through the measure of conflict within a teacher-child relationship ($\beta=.123$; $p<.001$). In addition, teacher efficacy in relation to the internalizing and externalizing behaviors among rural, at-risk children was examined. Results indicated that with regard to teacher-efficacy and its relationship to teacher ratings of internalizing and externalizing problem behaviors, no significant results were found.

Outside of direct examination of the research questions several other significant results were found. As expected, the strongest predictors of internalizing behavior in the spring included ratings of internalizing behavior in the fall ($\beta=.227$; $p<.001$). In addition the strongest predictor of externalizing problems in the spring was externalizing problem ratings in the fall ($\beta=.210$; $p<.001$). Professional development and collaboration had a significant positive relationship to fall ratings of internalizing problems ($\beta=.244$; $p<.001$), and fall externalizing problems ($\beta=.091$; $p<.001$). The relationship suggested that higher ratings of professional development and collaborative efforts were associated with higher teacher ratings of behavioral problems in the spring. However, professional climate had a significant negative effect on fall

externalizing problems ($\beta = -.1$; $p < .01$), suggesting that more positive ratings of professional climate were associated with lower teacher ratings of externalizing problem behaviors in the spring.

In summary, while the professional climate and opportunities for professional development and collaboration available to teachers within rural schools were positively associated with their feelings of efficacy, teacher efficacy was not identified as a significant predictor of internalizing and externalizing behaviors during at-risk students' Kindergarten year. However, teacher efficacy was related to the closeness within a teacher-child relationship suggesting that higher ratings of efficacy were associated with lower ratings of closeness. The conflict within a teacher-child relationship was positively associated with fall ratings of internalizing and externalizing problem behaviors suggesting that higher ratings of conflict were associated with higher ratings of problem behavior.

Chapter V: Discussion

Summary and Integration of Results

The purpose of the current study was to examine the relationship between teacher and school characteristics within rural schools, in addition to teacher and school characteristics as related to the social-emotional functioning of rural, at-risk children. Specific variables included teacher perceptions of their professional climate, opportunities for collaboration and professional development in addition to teacher efficacy. These broader variables were examined in relation to teacher-child relationships and the internalizing and externalizing behaviors of rural, at-risk children. A summary of results as they relate to and extend prior research is described below.

Professional climate. Teacher perceptions of professional climate are important to teacher efficacy, or the belief that teachers have the ability to create desired change (academically or behaviorally) in their students. Bandura (1997) found that a professional climate characterized by good leadership and administrative support is important to teacher efficacy. In addition, other research has suggested that teacher perceptions of professional climate can lead to more positive attitudes toward teaching and even more quality classroom environments (Justice & Rimm-Kaufman, 2008).

As expected given the review of the literature, the results of the present study found that teacher perceptions of professional climate were significantly related to teacher efficacy. This result adds to existing research by examining the relationship between professional climate and teacher efficacy among teachers serving rural, at-risk children. Teachers who work with rural, at-risk children who have more positive perceptions of their work climates are likely to report higher ratings of teacher efficacy as well. While previous research appears to have established a positive relationship between professional climate and teacher efficacy, this finding adds to the

research by examining the relationship between professional climate and teacher efficacy of students serving rural, at-risk children. Therefore, teachers working with rural, at-risk children are more likely to report perceived ability to create desired changes through their teaching when they also perceive more positive professional climates within the school.

Professional development and collaboration. Opportunities for professional development and collaboration in schools are also important for teachers' feelings of efficacy. When teachers are given opportunities to collaborate and participate in trainings they feel more confident in their ability to create the desired changes in their students. In rural schools, opportunity for professional development is especially important to the satisfaction and retention of teachers (Berry, Petrin, Gravelle, & Farmer, 2011). As expected, given the review of the literature, opportunities for professional development and collaboration were positively associated with teacher efficacy. However, the current study adds to previous research by extending the relationship between professional development, collaboration and teacher efficacy to teachers working in rural schools.

Research specific to rural schools has noted the struggles related to providing adequate opportunities for professional development. This, along with lower salary, and higher workload is thought to contribute to higher teacher turnover in rural areas. However, several researchers hypothesized that opportunities for professional development along with teachers' feelings of support may lead to higher job satisfaction and less teacher turnover in rural areas (Berry, Petrin, Gravelle, & Farmer, 2011). While the results of the current study do not relate to rates of teacher turnover, they do suggest that opportunities for professional development and collaboration are associated with higher teacher efficacy, indicating that teachers with such opportunities feel more confidence in their effectiveness as a teacher. Furthermore, the current

study suggested that the relationship between professional development and collaboration and teacher efficacy is significant among teachers serving at-risk students in rural schools.

Teacher efficacy. High teacher efficacy has been related to higher student achievement, motivation and success (Caprara, Barbaranelli, Steca, & Malone, 2006; Mojavezi & Tamiz, 2012), more positive teacher-child relationships (Chung, Marvin, & Churchill, 2005), more effective classroom management (Melby, 1995), teacher satisfaction (Collie, Shapka, & Perry, 2012), and most importantly more confidence and persistence in working with at-risk children and children with social-emotional behavior problems (Jones, 2011; Miller, 1987). However, the literature review revealed no prior research considering the relationship between teacher efficacy and ratings of behavioral problems among an at-risk population, specifically, rural, at-risk students. In addition, while previous research suggested more positive teacher-child relationships, the current study further examined the association between teacher efficacy and teacher-child relationships among rural, at-risk students.

Results of the current study suggest that teacher efficacy did not have a significant relationship with spring internalizing or externalizing problem behaviors among rural, at-risk children. When examining the relationship between teacher efficacy and teacher-child relationships, teacher efficacy was significantly related to the measure of closeness within a teacher-child relationship. However, the relationship was not as expected given prior research suggesting teacher efficacy was related to more positive teacher-child relationships (Chung, Marvin, & Churchill, 2005). Instead, the current study indicated that more positive ratings of teacher efficacy were related to lower ratings of closeness within a teacher-child relationship.

The contrasting results may be due to differences in research samples. The sample used in Chung, Marvin and Churchill (2005) were randomly selected and not identified as living in rural

areas or as being from families with low socioeconomic status. This suggests that feelings of efficacy may not correlate with teacher-child relationships when considering the relationship between teachers and students who are considered at-risk. Although in the present study teachers had positive perceptions of their effectiveness as teachers, they reported less closeness within teacher-child relationships with at-risk students. Furthermore, the students in the current study presented with initially high levels of internalizing and externalizing problem behaviors which is likely to have discouraged a close and open teacher-child relationship. In fact, the current study found that initial levels of internalizing and externalizing behaviors, although insignificant, were negatively associated with the closeness within a teacher-child relationship.

Teacher-child relationship. The review of the literature indicated that the degree of closeness within a teacher-child relationship and the degree of conflict within the relationship are often associated with child wellbeing. Research has suggested that closeness within a teacher-child relationship is associated with decreases in internalizing and externalizing behavior problems across time. However, the conflict within a teacher-child relationship can serve as an added risk factor through its association with increases in externalizing problem behaviors. In the present study, the measure of conflict within a teacher-child relationship was indeed significantly related to both internalizing and externalizing behavior ratings. The results suggest that higher ratings of conflict within a relationship were associated with higher ratings of problem behaviors among rural, at-risk children in the spring of their Kindergarten year. However, the closeness within a teacher-child relationship was not significantly related to ratings of behavior.

Research regarding risk and protective factors suggested that studies may overestimate the impact of protective factors by failing to examine specific at-risk populations (Vanderbilt, 2008).

A specific sample of at-risk students was examined in the current study, in which results indicated the closeness within a teacher-child relationship did not impact behavioral ratings. Therefore, the notion based on previous research, suggesting that the closeness within a teacher-child relationship served as a protective factor, may not be applicable to rural, at-risk children. Previous research which grouped together children on various levels of risk may have tended to overestimate the impact of closeness within a teacher-child relationship. While the findings revealing more positive teacher-child relationships are not related to decreases in problem behavior may be discouraging, the findings do offer hope for the potential to impact problem behaviors through the decrease in conflict between teachers and their rural, at-risk children. The results add to prior research by revealing a relationship between conflict within a teacher-child relationship and rural, at-risk children's social-emotional functioning.

Implications and Future Directions

Supporting Teachers. The current study provides information important to supporting teachers who serve rural, at-risk students implying that perceptions of professional climate are important to teachers' feelings of efficacy. Administrative support and encouragement of teachers can occur through the application of good listening skills and ensuring teachers' concerns are heard. When teachers feel that their administrators establish collaborative leadership plans and actively implement them, they tend to report more positive professional climates. In addition, teachers need to feel supported and recognized for a job well done. When teachers have these positive views of their administrators and also feel that they are accepted by and can work together with their colleagues then they are likely to report more confidence in their work as a teacher (teacher efficacy). The current study extended previous research by suggesting that the relationship between perceptions of professional climate and teacher efficacy

exists among teachers who serve at-risk children. Furthermore, it appears especially important to create a positive professional climate in schools serving high populations of at-risk students, specifically, rural schools who serve students at-risk, to create a sense of empowerment and efficacy within the teachers.

In addition, the results stress the importance of supporting opportunities for professional development and collaboration within rural schools. Important factors include time for teachers to meet with each other to discuss lesson planning and curriculum development, in addition to time for small group problem solving, peer observation, and feedback. The current study indicates that when teachers report more involvement in such activities they also report more positive feelings of teacher efficacy. Furthermore, Kindergarten teachers who serve rural, at-risk students report more confidence in their teaching ability (teacher efficacy) when they report more involvement in professional development and collaboration activities.

The current study indicated that professional development, collaboration and teacher's perceptions of professional climate were identified as significant contributors to teacher efficacy among teachers working with at-risk children in rural schools. These results are important for administrators and educators serving disadvantaged children in rural areas. Providing or ensuring opportunities for professional development and collaboration along with facilitating a positive work climate are important to teachers' feelings of effectiveness in their daily work. Although not directly researched in the current study, teacher efficacy has been associated with increased job satisfaction and may decrease teacher turnover in rural schools. Future research may wish to address this relationship. In addition, teacher-eficacy has been related to more positive teaching strategies and higher classroom quality. While such variables were not specifically researched in the current study, given the review of previous research it appears that

professional development, collaboration and professional climate may have an indirect impact on such variables. Future research may further the current study by addressing the relationship between professional development, collaboration and professional climate on measures of teacher wellbeing, specific teaching strategies and classroom quality in rural schools.

Empowering Students. The current study also provided important information on characteristics that impact rural, at-risk student's relationships and social-emotional functioning. Schools serving rural, at-risk children should pay special attention to the conflict within relationships between teachers and students. Teachers who reported more conflict in their relationships with students also reported higher levels of student internalizing and externalizing problem behaviors at the end of students' Kindergarten year. In addition, as previously mentioned, this particular sample of rural, at-risk children had initially high levels of internalizing and externalizing problem behaviors, and the current study found that initially high levels of externalizing problem behaviors were significantly positively related to the conflict within a teacher-child relationship.

Given the relationship between conflict and externalizing problem behaviors, rural schools should pay special attention to at-risk students displaying initially high levels of externalizing problems. Furthermore, an intervention aimed at decreasing the conflict within a teacher-child relationship, among children displaying initially high levels of externalizing problems, may lead to lower externalizing behavior at the end of the Kindergarten year. It would be a worthy aim for rural schools to identify students early in the year, who are at-risk for developing teacher-child relationships characterized by high conflict and less closeness, to take such preventative action.

The conflict within a teacher-child relationship may be effectively reduced by providing teachers with regular consultation to formulate behavioral plans focused on increasing positive

behaviors in place of the externalizing behaviors. As part of a behavioral plan teachers should provide clear behavioral expectations and regular reinforcement for positive behavior. Teachers should also be cognizant of providing an appropriate amount of praise for the demonstration of appropriate behavior. In addition, children displaying externalizing behaviors may benefit from structured classroom settings with established routines. Consultants, such as school psychologists, may model the use of positive reinforcement by praising teachers for effective use of behavioral plans.

Though past research has indicated a relationship between teacher-efficacy and more confidence and persistence in working with challenging students, the results of the current study did not find a significant relationship between teacher-efficacy and teacher ratings of internalizing or externalizing problem behaviors among rural, at-risk children. In addition, previous research suggested that teacher efficacy was related to more positive teacher-child relationships and more positive teaching strategies. Also found in the current study was a significant relationship between teacher-efficacy and the degree of closeness within a teacher-child relationship. However, the relationship found between teacher-efficacy and the closeness within a teacher-child relationship was unexpected suggesting that higher ratings of teacher-efficacy were related to less closeness within the teacher-child relationship. This finding is puzzling given that teacher-efficacy has been previously positively associated with the closeness within a teacher-child relationship (Chung, Marvin, & Churchill, 2005).

The reason for conflicting results may merely be due to the differences in sample populations among the two studies. The current study sampled rural, at-risk students while the previous study did not specifically target a sample of at-risk children. Therefore, the current study may indeed reflect a more accurate picture of this relationship with an at-risk population, signifying

that teacher-child relationships among at-risk children may not be associated with teacher's feelings of efficacy. In addition, the current study utilized teacher perceptions to gauge the degree of teacher efficacy and closeness or conflict within teacher-child relationships. Future research may wish to examine this relationship with more comprehensive measures of teacher-child relationship among rural, at-risk students and their teachers.

The exploration of teacher efficacy in relation to behavioral outcomes appeared relatively understudied given the review of the literature. The current study did not reveal a significant relationship between teacher efficacy and their ratings of rural, at-risk students' internalizing or externalizing problem behaviors. While the aim of the current study was to examine this relationship among a specific at-risk population, future research may want to consider the relationship between teacher-efficacy and more generally representative samples of children in addition to children of different ages. Future research may also examine the differences between specific types of teacher efficacy in relation to ratings of problem behaviors in children. For example, the current study combined questions thought to reflect both personal and general teacher efficacy into one scale. However, personal and general teacher efficacy have been discussed as separate domains of efficacy in previous literature. In addition, future research may want to examine efficacy in relation to specific teaching outcomes. For example, a scale specific to teacher's feelings of efficacy in relation to behavioral change within their students may be the most appropriate when considering behavioral outcomes when compared to the examination of academic outcomes.

The current study also examined the relationship between teacher-child relationships and internalizing/externalizing problem behaviors. Results suggest that teacher-child relationships characterized by conflict were positively associated with both internalizing and externalizing

problem behaviors among rural, at-risk children; however, the closeness within a teacher-child relationship was not significantly associated with internalizing or externalizing problems. These results are important to teachers and educators in rural areas by suggesting that reducing conflict among teachers and students may be a means to reducing internalizing and externalizing behaviors among children at-risk. Given previous research suggesting the closeness within a teacher-child relationship may act as a buffer against the development of behavioral problems, future research may further examine the relationship between closeness within a teacher-child relationship and problem behaviors using more comprehensive measurements of the variables and among children of varying levels of risk.

Strengths and Limitations

The current study aimed to examine factors associated with problem behaviors among a specific population of interest, rural, at-risk children. This was viewed as a strength of the current study by providing information specific to a population of at-risk students, since previous research, which groups together students of various levels of risk, may tend to present results not representative of specific at-risk populations. In addition, the sample of rural, at-risk students was derived from a nationally representative database which provided a large sample size and sample that was nationally representative of rural, at-risk Kindergarten students.

Despite this, limiting the sample was also viewed as a limitation in some respects. By limiting the sample the results of the current study are only generalizable to rural schools and teachers working with rural, at-risk students. In addition, insignificant results may have been a result of the limited sample; however, although insignificant, the results may actually present a more accurate picture of the relationship between rural, at-risk student behaviors and school and teacher characteristics. For example, the insignificant relationship found between teacher-

efficacy, conflict within the teacher-child relationship and behavioral ratings may suggest that, among this particular sample of at-risk children, these factors may not be sufficient enough to create a significant change in behavior.

Another factor and potential limitation to consider are the measures of internalizing and externalizing behaviors used in the current study. Behaviors were rated by teachers using a short, 6 question scale. A recognizable limitation was the lack of a comprehensive measure of behavior. Also, behavioral ratings in the current study were subjective and not without teacher influence which may have also impacted the current findings. Although it is unknown the order in which the topics were presented in the questionnaires, it is also possible that responding to certain items earlier on in the questionnaire may have affected teacher responses to the following items. Future studies may want to consider the use of more lengthy questionnaires, ratings from multiple sources, or perhaps behavioral observations as part of a comprehensive measure of behavior.

Lastly, the conceptual model used in the analysis assumed a specific order of causal effect. This particular model was chosen after a thorough review of the literature which suggested the order of effects. Although the model made sense in the current study, the variables could have been conceptualized and examined in a different order. In addition, with the exception of fall and spring behaviors, all other variables were collected at the same time (spring of Kindergarten year). Future studies may wish to examine variables such as perceptions of professional climate, and teacher-child relationship several times throughout the school year.

Conclusion

The present study was conducted to investigate teacher and school characteristics that were associated with the internalizing and externalizing problem behaviors among rural, at-risk

children. The study is important due to a limited research base on rural, at-risk children and school factors as related to the social-emotional development of children. The hope was to discover teacher and school-wide variables that could potentially influence the behavioral problems among rural, at-risk children. This study provides a unique perspective on school and teacher characteristics associated with an at-risk sample.

The results are encouraging, suggesting that teacher perceptions of the professional climate and opportunities for collaboration and professional development are associated with increases in teacher-efficacy. Empowering teachers in rural areas is a great start to ensuring that quality relationships are being formed and quality education is being delivered in the classrooms. The current study also suggests that the conflict within a teacher-child relationship can serve as a risk factor as it was positively associated with behavior problems. Though teacher-efficacy and the closeness within a teacher-child relationship did not appear to have a significant impact on student behavior, the current study still provides valuable information regarding the importance of decreasing conflict in teacher-child relationships to impact student behavior.

In addition, although somewhat discouraging, the present study may provide an accurate depiction of what is needed to significantly impact behaviors among solely at-risk populations. That is, due to the initially high levels of problem behaviors displayed among rural, at-risk students, more intensive interventions may be required to significantly create changes in behavior. Still, the significant results of the study are important to rural educators and offer hope for the potential impact on the social-emotional functioning of children at-risk.

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Appendix A

Scales

Table A-1

Questionnaire Items by Scale

Name	Question	Response Scale
Internalizing Behaviors (SRSS)	Child: <ol style="list-style-type: none"> 1. Is easily embarrassed 2. Appears lonely 3. Acts sad or depressed 4. Has low self-esteem 5. Likes to be alone 6. Shows anxiety with children 	Never Sometimes Often Very often
Externalizing Behaviors (SRSS)	Child: <ol style="list-style-type: none"> 1. Threatens or bullies others 2. Fights with others 3. Argues with others 4. Gets angry easily 5. Has temper tantrums 6. Talks back to adults 	Never Sometimes Often Very often
Student-Teacher Relationship Scale-Closeness (Pianta & Steinberg 2001)	<ol style="list-style-type: none"> 1. I share an affectionate, warm relationship with this child. 2. If upset, this child will seek comfort from me. 3. This child values his/her relationship with me. 4. When I praise this child, he/she beams with pride. 5. This child spontaneously shares information about himself/herself. 6. It is easy to be in tune with what this child is feeling. 7. This child openly shares his/her feelings or experiences with me. 	Definitely does not apply Not really Neutral, not sure Applies somewhat Definitely applies
Student-Teacher Relationship Scale-Conflict (Pianta & Steinberg 2001)	<ol style="list-style-type: none"> 1. This child and I always seem to be struggling with each other. 2. This child easily becomes angry with me. 3. This child is sneaky or manipulative with me. 4. Dealing with this child drains my energy. 5. When this child is in a bad mood, I know we're 	Definitely does not apply Not really Neutral, not sure Applies somewhat Definitely applies

	<p>in for a long and difficult day.</p> <ol style="list-style-type: none"> 6. This child's feelings toward me can be unpredictable or can change suddenly. 7. This child is uncomfortable with physical affection or touch from me. 8. This child remains angry or resistant after being disciplined. 	
<p>Professional Climate</p>	<ol style="list-style-type: none"> 1. I feel accepted and respected as a colleague by most staff members 2. There is broad agreement among the entire school faculty about the central mission of the school 3. The school administrator sets priorities, makes plans, and sees that they are carried out 4. The school administrator's behavior toward the staff is supportive and encouraging 5. Teachers in this school are continually learning and seeking new ideas 6. There is a great deal of cooperative effort among the staff members 1. In this school, staff members are recognized for a job well done 	<p>Strongly disagree Disagree Neither agree or disagree Agree or strongly agree</p>
<p>Professional Development and Collaboration</p>	<p>How often have you participated in the following school-related activities since the beginning of the school year?</p> <ol style="list-style-type: none"> 1. Meeting with other teachers to discuss lesson planning 2. Meeting with other teachers to discuss curriculum development <p>“In which of the following staff development and training activities have you participated during the current academic year?”</p> <ol style="list-style-type: none"> 2. Workshops involving study groups or small-group problem solving 3. Direct instruction from an outside consultant on a specific topic 4. Peer observation and feedback 5. Visits to, or observations of, other schools 	<p>Never Once a month or less Two or three times a month Once or twice a week Three or four times a week Daily</p> <p>Yes or No</p>

	<ol style="list-style-type: none"> 6. Release time for attending professional conferences 7. Enrollment in college or university courses related to your profession 8. Professional development via distance learning (web-based, etc.) 9. Workshops on using computers and technology in the classroom 	
<p>Teacher Efficacy</p>	<p>“Please indicate the extent to which you agree or disagree with each of the following statements about your school”</p> <ol style="list-style-type: none"> 1. The level of child misbehavior in this school interferes with my teaching 2. Many of the children I teach are not capable of learning the material I am supposed to teach them 3. Routine administrative duties and paperwork interfere with my job of teaching 10. To what extent do you agree or disagree with each of the following statements? 4. If I try really hard, I can get through even to the most difficult or unmotivated students. 5. If some students in my class are not doing well, I feel that I should change my approach to the subject. 6. By trying a different teaching method, I can significantly affect a student’s achievement. 7. There is really very little I can do to ensure that most of my students achieve at a high level. 8. I work to create lessons so my students will enjoy learning and become independent thinkers. 9. I feel sometimes it is a waste of my time to try to do my best as a teacher. 10. The attitudes and habits students bring to my class greatly reduce their chances for academic success. 11. My success or failure in teaching is due primarily to factors beyond my control rather than to my own effort or ability. 12. The amount a student can learn is primarily related to family background. 13. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson. 	<p>Strongly disagree Disagree Neither agree or disagree Agree or strongly agree</p>

	<p>14. If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.</p> <p>15. I am certain I am making a difference in the lives of the children I teach</p>	
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Appendix B

Preliminary Analyses

Table B-1

Sample Demographics

	Frequency	Percent
Location		
Rural, Fringe	648	49.2
Rural, Distant	491	37.3
Rural, Remote	179	13.6
Region		
Northeast	89	6.8
Midwest	202	15.3
South	838	63.6
West	189	14.3
Socio-Economic Status		
Below Poverty Threshold	593	45
Below 200% of Threshold	725	55
Sex		
Male	672	51
Female	646	49
Race		
Not Ascertained	1	0.1
White, Non-Hispanic	834	63.3
Black/African American	139	10.5
Hispanic	238	18.1
Asian, Non-Hispanic	25	1.9
American Indian/Alaska Native	20	1.5
Two or More Races	61	4.6

Table B-2

Research Variables

Variable Name	Variable Type	Scale Origin
Professional Climate	Independent	Researcher Developed
Professional Development and Collaboration	Independent	Researcher Developed
Teacher Efficacy	Independent	Researcher Developed
Teacher-Child Relationship (closeness)	Independent	Existing: Pianta & Steinberg (2001)
Teacher-Child Relationship (conflict)	Independent	Existing: Pianta & Steinberg (2001)
Internalizing problems	Dependent	Existing: Gresham & Elliott (1990)
Externalizing problems	Dependent	Existing: Gresham & Elliott (1990)

Table B-3

Factor Loadings for Factor Analysis with Varimax Rotation of Professional Development and Collaboration Items

	Component	
	1	2
Meeting with other teachers to discuss lesson planning	.629	.170
Meeting with other teachers to discuss curriculum development	.783	.019
Direct instruction from an outside consultant on a specific topic	.466	.616
Workshops involving study groups or small group problem solving	.509	.508
Peer observation and feedback	.734	.264
Visits to, or observations of, other schools	.782	.355
Release time for attending professional conferences	.479	.554
Enrollment in college or university courses related to your profession	.522	.641
Professional development via distance learning	.128	.882
Workshops on using computers and technology in the classroom	.061	.854

Table B-4

Factor Loadings for Factor Analysis with Varimax Rotation of Teacher Efficacy Items

	Component		
	1	2	3
If a student in my class becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly	.096	.184	.886
If I try really hard, I can get through even to the most difficulty or unmotivated students	.200	.825	.275
If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson	.159	.296	.748
There is really very little I can do to ensure that most of my students achieve at a high level	.734	.090	.095
The level of child misbehavior in this school interferes with my teaching	.636	.216	.001
I am certain I am making a difference in the lives of the children I teach	.013	.235	.850
Many Children I teach are not capable of learning the material I am supposed to teach them.	.724	.287	.033
Routine administrative duties and paperwork interfere with my job of teaching	.605	.253	.023
The amount a student can learn is primarily related to family background	.670	.211	.041
If some students in my class are not doing well, I feel that I should change my approach to the subject	.329	.814	.247
By trying a different teaching method, I can significantly affect a student's achievement	.205	.738	.145
I work to create lessons so my students will enjoy learning and become independent thinkers	.259	.739	.307
I feel sometimes it is a waste of my time to try to do my best as a teacher	.717	.147	.108
The attitudes and habits students bring to my class greatly reduce their chances for academic success	.771	.121	.061
My success or failure in teaching is due primarily to factors beyond my control rather than to my own effort or ability	.649	.068	.207

Appendix C

Results

Figure C-1

Conceptual Model for Path Analysis

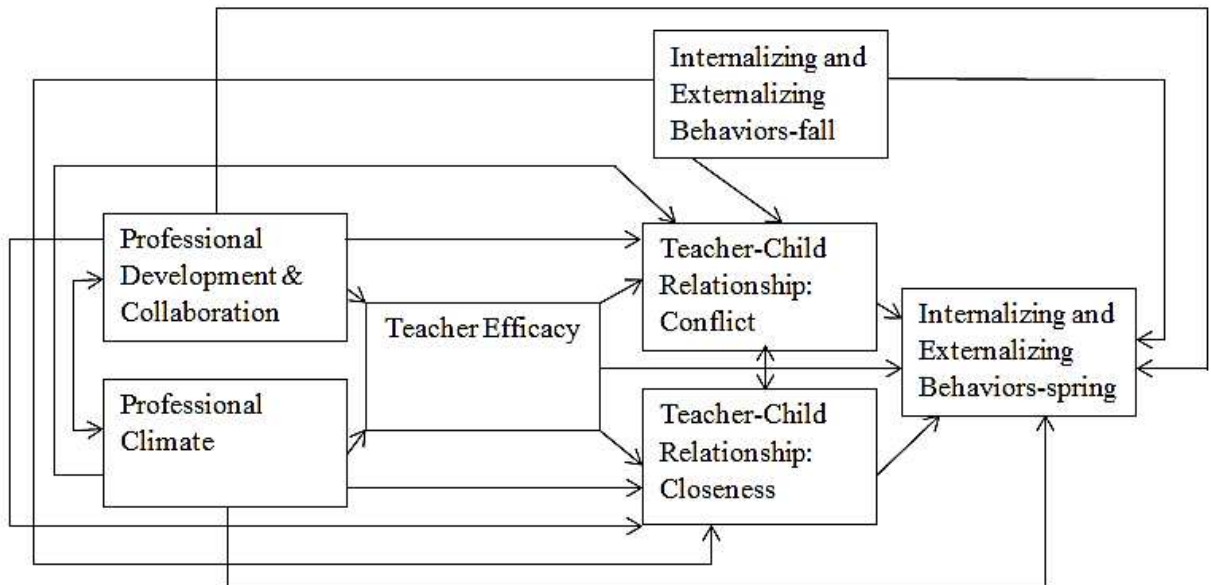
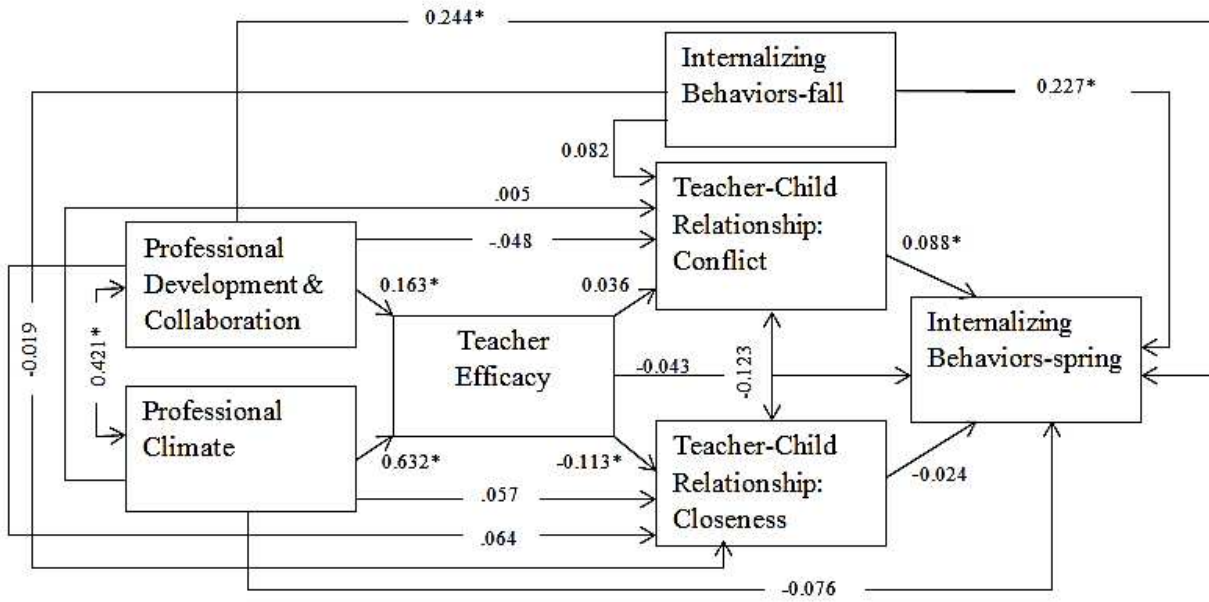


Figure C-2

Direct Effects Internalizing Path Analysis Model



*p value ≤ .05

Figure C-3

Direct Effects Externalizing Path Analysis Model

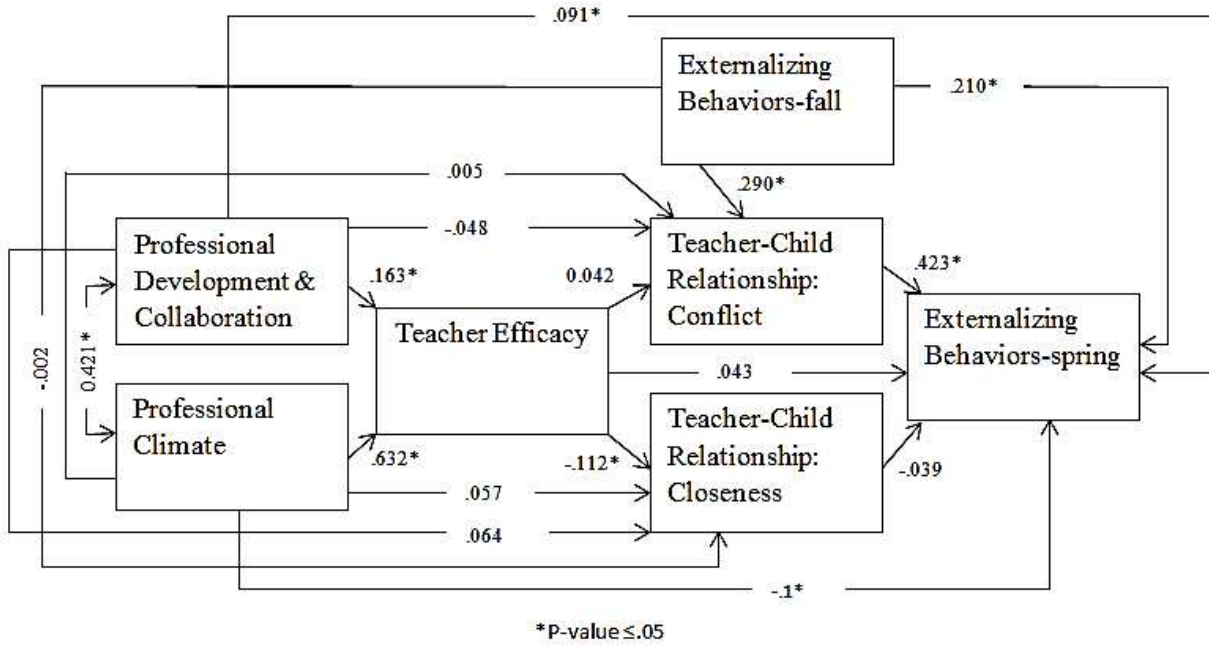


Table C-1

Direct Effects Unstandardized Estimates, Standard Errors and Significance Levels for

Externalizing Model

	Effect of Professional Climate B (SE)	Effect of Professional Development & Collaboration B (SE)	Effect of Teacher Efficacy B (SE)	Effect of Externalizing Behavior: Fall B(SE)	Effect on Externalizing Behavior: Spring B (SE)
Professional Climate					-.100 (.035)**
Professional Development & Collaboration					.091(.028)**
Teacher Efficacy	.632 (.019)***	.163 (.023)***			.043(.035)
Teacher-Child relationship: Conflict	.005 (.502)	-.048 (.569)	.042 (.989)	.290(.033)***	.423 (.024) ***
Teacher-Child relationship: Closeness	.057 (.042)	.064 (.034)	-.112(.042) **	-.002 (.030)	-.029 (.025)
Externalizing Behavior: Fall					0.210(.026) ***
Direct effects	-.100(.035)**	.124(.039)**	.059(.049)	.138(.017)***	
Total Indirect effects	.042(.026)	-.018(.020)	.033(.024)	.081(.010)***	
Total effects	-.059(.031)	.106(.042)*	.093(.055)	.219(.018)***	

Note. *p<.05, **p<.01, ***p<.001

Table C-2

Direct Effects Unstandardized Estimates, Standard Errors and Significance Levels for

Internalizing Model

	Effect of Professional Climate B (SE)	Effect of Professional Development & Collaboration B (SE)	Effect of Teacher Efficacy B (SE)	Effect of Internalizing Behavior: Fall B(SE)	Effect on Internalizing Behavior: Spring B (SE)
Professional Climate					-.076 (.039)
Professional Development & Collaboration					.244(.031)***
Teacher Efficacy	.632 (.019)***	.163 (.023)***			-.043(.04)
Teacher-Child relationship: Conflict	.003(.524)	-.013 (.442)	.036(.884)	.082(.153)	.088 (.028)**
Teacher-Child relationship: Closeness	.056 (.042)	.067 (.033)*	-.113 (.042)**	-.019 (.030)	-.024(.028)
Internalizing Behavior: Fall					.227(.028)***
Direct effects	-.081(.042)	.351(.045)***	-.063(.058)	.146 (.018) ***	
Total Indirect effects	-.028(.027)	-.011(.011)	.009(.007)	.005(.002)*	
Total effects	-.109(.032)**	.340(.044)	-.054 (.058)	.151(.018) ***	

Note. *p<.05, **p<.01, ***p<.001

Table C-3

Indirect Effects Unstandardized Estimates, Standard Errors and Significance Levels

	Effect on Internalizing: Spring B (SE)	Effect on Externalizing: Spring B (SE)	Effect on Teacher- Child Relationship: Closeness B(SE)	Effect on Teacher- Child Relationship: Conflict B(SE)
Indirect Effects of Professional Development & Collaboration Through:				
Teacher Efficacy	-.010(.009)	.009(.008)	-.018(.007)*	.007(.162)
Teacher Efficacy and Closeness	.001(.001)	.001(.001)		
Teacher Efficacy and Conflict	.001(.018)	.004(.093)		
Relationship: Closeness	-.002(.003)	-.002(.003)		
Relationship: Conflict	.000(.066)	-.028(.328)		
Indirect Effects of Professional Climate Through:				
Teacher Efficacy	-.029 (.027)	.027(.023)	-.071(.027)**	.027(.625)
Teacher Efficacy and Closeness	.002 (.002)	.002(.002)		
Teacher Efficacy and Conflict	.002 (.052)	.011(.266)		
Relationship: Closeness	-.001 (.002)	-.002(.002)		
Relationship: Conflict	-.001(.041)	.002(.214)		
Indirect Effects of Teacher Efficacy Through:				
Relationship: Closeness	.004(.005)	.004(.004)		
Relationship: Conflict	.005 (.113)	.025(.580)		
Indirect Effects of Fall Internalizing Behaviors Through:				
Relationship: Closeness	.000 (.001)	.000 (.001)		
Relationship: Conflict	.005 (.009)	.081(.011) ***		

Note. *p<.05, **p<.01, ***p<.001