THE IMPACT OF ACADEMIC OPTIMISM ON ELEMENTARY ENGLISH LANGUAGE ARTS ACHIEVEMENT IN RURAL MISSOURI SCHOOLS

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THE IMPACT OF ACADEMIC OPTIMISM ON ELEMENTARY ENGLISH LANGUAGE ARTS ACHIEVEMENT IN RURAL MISSOURI SCHOOLS

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DEDICATION

I dedicate this dissertation to Vinita Hubbard, my grandmother, for being awesome for 90 years, and still getting up every day and going to work. On days I was too worn out to write, I thought of you mowing your lawn after a full day of work and stopped feeling sorry for myself!

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ABSTRACT

This study researched the difference in achievement of students on annual Missouri fourth grade English language arts assessment in schools with high academic optimism versus achievement of students in schools with low academic optimism. The study also examined the impact of poverty level combined with academic optimism on student achievement. The study extends the work of Hoy, Tarter, and Woolfolk Hoy (2006) to 50 rural elementary schools in Missouri. Teachers were surveyed using the School Academic Optimism Scale.

Although results of this study failed to show any significant difference in school achievement based on levels of academic optimism, the outcomes showed academic optimism had potential to impact student achievement. It is reasonable to conclude that positive impact on student achievement could be found in a larger sample of similar schools. Understanding how the components of academic optimism work together could be beneficial to schools looking to improve student achievement.

CHAPTER ONE

INTRODUCTION

Overcoming the effects of socioeconomic status on academic achievement was the foundation of the 1965 Elementary and Secondary Education Act (Stone, Jones, & Pierannunzi, 2001). Equality of Educational Opportunity, also known as The Coleman Report (1966), noted school inputs had limited influence on achievement beyond influences of student background and socioeconomic status. In response to The Coleman Report (1966), researchers worked to identify factors contributing to student achievement marking the beginning of the effective schools movement in 1967 (Brookover & Lezotte, 1979; Edmonds & Frederikson, 1979; Phi Delta Kappa, 1980). According to Edmonds (1979), five school factors have significant effect on student achievement beyond student background: strong principal leadership, high expectations, emphasis on basic skills, an orderly environment, and frequent and systematic student assessment. Edmond's five-factor model, known as Effective Schools Correlates, was considered a framework for reforming low performing schools (Raptis & Fleming, 2003). Recent empirical research on school effectiveness demonstrates a positive relationship between academic optimism and student achievement (Hoy, Tarter, & Woolfolk Hoy, 2006; Kirby & DiPaola, 2009; McGuigan & Hoy, 2006; Smith & Hoy, 2007; Wagner & DiPaola, 2011).

Academic optimism is a relatively new construct developed as a result of 30 years of research focused on school climate and organizational structures by researchers Hoy, Tarter, and Woolfolk Hoy (2006). Academic optimism is a set of beliefs connecting collective efficacy and faculty trust of clients with academic emphasis. When academic optimism is present, teachers believe in their capacity to impact student achievement and

believe all students have the ability to meet the demands of high academic standards (Hoy & Miskel, 2013). Academic optimism combines collective efficacy, academic emphasis, and faculty trust in students and parents into a single school climate measure thought to positively impact student achievement beyond the effects of socioeconomic status (Hoy et al., 2006; Kirby & DiPaola, 2009; McGuigan & Hoy, 2006; Smith & Hoy, 2007; Wagner & DiPaola, 2011).

The purpose of this study was to extend the work of Hoy, Tarter, and Woolfolk Hoy (2006) by examining the difference in achievement of students in schools with high academic optimism versus schools with low academic optimism. The study also examined the impact of poverty level combined with academic optimism on student performance. The sample used for this study extended Hoy's work to rural elementary schools in Missouri.

Problem Statement

Mann noted "education then, beyond all other devices of human origin, is the great equalizer of the conditions of men, the balance-wheel of the social machinery" (1848, p.1). Coley and Baker (2013) reviewed the negative relationship between the conditions of poverty and a wide range of educational and life outcomes. The life outcome disparity between children living in poverty and children not living in poverty is the foundation for the federal policy associated with is study. Despite the focus of federal education policy, the achievement gap between the rich and the poor is widening (Reardon, 2011). Current education policies focus on common curriculum standards, high-stakes testing, accountability measures, school competition, and teacher evaluation related to student performance (The White House, 2015). These policies are designed to

close the achievement gap, raise student achievement, and prepare students for college and career. Some researchers believe current efforts fall short of expectations because they disregard the challenges faced by disadvantaged youth (Ladd, 2012; Ravitch, 2011; Porter, McMaken, Hwang, & Yang, 2011). Education is supposed to be the great equalizer but is not living up to expectations for students from low socioeconomic families (Reardon, 2011). If educators are not closing the achievement gap as a result of federal and state policies for reform through accountability, then schools must focus resources on more successful methods. The sense of urgency to close the gap is high but the sense of success is low.

Rationale/Purpose of Study

The purpose of this study was to explore the difference in achievement of students in schools with high academic optimism versus schools with low academic optimism and to explore the potential of the construct to overcome the effects of poverty on student achievement. Every Student Succeeds Act (2015) is categorized by federal lawmakers as a civil rights law focusing on overcoming the negative effects of poverty on student achievement. Title 1 of Every Student Succeeds (ESSA) shapes the expectation that all students will meet high academic standards and directs states to reallocate resources to underperforming schools with focus on the lowest-performing schools, high schools with high dropout rates, and schools with achievement gaps (Congress, 2015). Children in African American, Hispanic, and low-income demographic groups on average consistently score lower on measures of academic achievement than children in other demographic groups particularly those from white and more affluent backgrounds. These discrepancies exist in standardized test scores, grades, high school completion rates,

college enrollment and completion rates (Poliakoff, 2006). Closing the achievement gap continues to be a struggle for many schools and identifying effective school level strategies can be a benefit to school leaders. This study explored academic optimism and student achievement to determine if academic optimism has an impact on student achievement for students of different socioeconomic status.

Hoy's initial research on academic optimism overcoming the effects of socioeconomic status on student achievement is intriguing but limited. Only a few studies have examined academic optimism and additional research is needed to confirm and extend these findings (Smith and Hoy, 2007; McGuigan and Hoy, 2006; Hoy, Tarter, and Woolfolk Hoy, 2006). Previous academic optimism research samples urban schools at each academic level; however, the construct has not been tested in rural settings. Additional research is needed to build a comprehensive theory of academic optimism in schools. This study added to the body of research on academic optimism and extended the research to rural schools.

This study extended the research base for academic optimism to rural schools in an effort to build a stronger understanding of the construct. A literature study conducted by researchers at Midcontinent Research for Education and Learning (McREL) on the condition of rural education research revealed there has been little research that can be used reliably to inform policy and practice about rural education issues. The researchers found no topic with a sufficient body of research specific to rural schools and concluded the condition of rural education research is poor (Arnold, Newman, Gaddy & Dean, 2005). The McREL study did not identify any research related to academic optimism.

Over 9.7 million students are enrolled in rural school districts in the United States, accounting for 20.4 percent of all public school students (Johnson, Showalter, Lester & Klein, 2014). More than two in five of those rural students qualify for federally subsidized free and reduced school meals. Total rural school student population growth rates exceed population growth rates of non-rural districts as measured by both short term and longer range trends (Johnson et al. 2014). Johnson, Showalter, Lester, and Klein (2014) concluded rural education is becoming a larger and more complex part of the United States educational setting and it is impossible to ignore the relevance of rural students, schools, and communities.

Limited research to inform rural education policy and practice and the growing importance of rural education contribute to the relevance of this study's rural sample. The rural sample adds to the research base of academic optimism. Identifying a connection between academic optimism and student achievement may provide direction to assist administrators and teachers interested in improving student achievement.

Research Questions

1. What is the difference in achievement of students in Missouri rural schools reporting a high standardized academic optimism score versus Missouri rural schools reporting a low standardized academic optimism score?
2. What is the impact of poverty level combined with academic optimism on student performance in Missouri rural schools?

Theoretical Framework

The impact of poverty on student academic achievement has been a topic of research by several researchers in the field of psychology (Dahl & Lochner, 2005;

Gershoff, Aber, & Raver, 2003; Seccombe, 2000; Yoshikawa, Aber and Beardslee 2012), and education (Peske & Haycock, 2006; Jerald & Ingersoll 2012; Webster-Stratton, Jamila, & Stoolmiller, 2008; Steinberg & Almeida 2008; Lotkowski, Robbins & Noeth, 2004). Poverty is a multidimensional and complicated construct. Yoshikawa, Aber, and Beardslee (2012) studied and diagramed the interconnectedness of poverty factors to help conceptualize the complicated nature of disadvantages related to growing up in poverty. The researchers identified three levels of mediating mechanisms through which family income affects child outcomes related to academic achievement. At the institutional level, mechanisms such as school quality and classroom quality impact student achievement (Yoshikawa, Aber, and Beardslee, 2012; Moore, 2012). Parent-child relationship characteristics are an example of a relational level mechanism through which parent income level impacts student achievement (Duncan, Brooks-Gunn, & Klebanov, 1994; Conger, Conger, & Scaramella, 1997; Emery & Laumann-Billings, 1998; Repetti, Taylor, & Seeman, 2002). Parents from poverty are more likely to have harsh parenting styles leading to behavior issues at school (Emery & Laumann-Billings, 1998) and less likely to engage in positive attentive interactions with children leading to lower cognitive and language development (Hoff, Laursen, & Tardiff, 2002). Mechanisms at the individual level include the physical, mental, and emotional health of the child. For example, children from low-income families are more likely to suffer chronic health issues (Moore, Redd, Burkhauser, Mbwana, & Collins 2002; Blair & Raver, 2012; Knudsen, Heckman, Cameron, & Shonkoff, 2006) and exhibit behaviors consistent with conduct disorders (Smith, Dishion, Shaw, Wilson, Winter, & Patterson, 2014) resulting in increased time spent out of the classroom.

Factors commonly associated with low-income families exist in the broad social context of poverty, characteristics of human relationships, and characteristics of individuals making it difficult for researchers to draw a direct causal line from family income to student achievement. However, it is clear family income indirectly impacts student achievement through multiple mediating mechanisms and interrelated factors leaving children from low-income families at an academic disadvantage when compared to their peers (Yoshikawa, Aber, and Beardslee, 2012).

Hoy, Tarter, and Woolfolk Hoy (2006) identified three school level factors that consistently impacted student achievement when controlling for SES: academic emphasis (Brookover, & Lezotte, 1979), collective efficacy (Bandura, 1997), and faculty trust in clients (Goddard, Tschannen-Moran, & Hoy, 2001). Previous studies led researchers to theorize a reciprocal relationship existed among the three factors making them part of a larger construct (Geist & Hoy 2004; Goddard, Sweetland, & Hoy, 2000; Goddard, Tschannen-Moran, & Hoy, 2001; Hoy & Feldman 1987; Hoy & Hannum, 1997; Hoy, Tarter, & Kottkamp, 1991). Hoy, Tarter, and Woolfolk Hoy (2006) identified academic optimism as a new latent school construct then used academic optimism to explain academic achievement when controlling for socioeconomic status, previous achievement, and urbanicity. The conceptual model of academic optimism includes three prongs: cognitive, emotional, and behavioral. The cognitive prong, collective efficacy, is a group belief that the actions of the group will have a positive effect on student outcomes. The emotional prong, faculty trust in clients, refers to the belief that students are capable and parents are supportive. The behavioral prong, academic emphasis, is the resulting hard

work and perseverance of both teachers and students to meet rigorous academic expectations (Hoy, Tarter, & Woolfolk Hoy, 2006).

Academic optimism emphasizes the potential of schools to overcome socioeconomic factors that impair student achievement. Academic optimism is rooted in the belief of what is possible and the connections of belief to human psychology. The term optimism was chosen as an overarching construct linking efficacy, trust, and academic emphasis because each contains a sense of what is possible in schools (Hoy, Tarter, & Woolfolk Hoy, 2006).

Limitations and Delimitations

- Small sample size may limit the ability to generalize the findings.
- School level free and reduced lunch percentages as the measure of school level poverty may not fully account for poverty related characteristics impacting student achievement.
- Multiple variables could impact student achievement and school performance and those variables will not be controlled or investigated in this study.
- Limitations of an assessment to measure achievement. Standardized assessments are subject to statistical error measures, sampling errors, construct validity and reliability.
- Surveys relied upon the teacher's ability to analyze the school system and the teacher's level of honesty.
- A delimitation of this study is the selection of participants. The researcher limited this research sample to Missouri Rural Schools as identified by the Missouri

Department of Elementary and Secondary Education in an effort to expand the research base for academic optimism.

- The study was delimited to schools with mixed student populations. Schools serving special populations exclusively were not included in the sample. This excluded schools serving only special education students, juvenile justice schools, and gifted academies.

Design Controls

This quantitative study looked for statistically significant difference in achievement of students in schools with high academic optimism versus schools with low academic optimism. This study also examined the impact of poverty level combined with academic optimism on student achievement. The survey instrument used to measure a school's level of academic optimism, School Academic Optimism Scale, was sent to all rural Missouri public elementary schools with fourth grade classrooms. The study examined publicly available student achievement data in English language arts at the fourth grade level and socioeconomic information was based on school free and reduced lunch percentages. The sample was chosen based on school locale code assigned by the Missouri Department of Elementary and Secondary Education, accessibility and willingness for survey completion.

Definition of Terms

Locale Codes - Locale codes were developed by National Center for Education Statistics in the 1990s (and revised in 2002) for general description, sampling, and other statistical purposes. This coding system is based on both the proximity to metropolitan areas and on population size and density. As a further aid to users, these codes are

assigned based on the addresses of the individual schools and are assigned at the school level. Locale Codes are the coding system used by the Missouri Department of Elementary and Secondary Education to identify rural schools (National Center for Education Statistics, 2003)

Locale Code 7 - Rural, outside Core Based Statistical Area (CBSA) or Consolidated Statistical Area (CSA) Any incorporated place, Census designated place, or non-place territory not within a CBSA or CSA of a Large or Mid-size City and defined as rural by the Census Bureau (National Center for Education Statistics, 2003).

Locale Code 8 - Rural, inside CBSA- Any incorporated place, Census designated place, or non-place territory within a CBSA or CSA of a Large or Mid-size City and defined as rural by the Census Bureau (National Center for Education Statistics, 2003).

Core Based Statistical Areas (CBSAs) - Refer collectively to metropolitan statistical areas and micropolitan statistical areas. CBSAs consist of the county or counties (or equivalent entities) associated with at least one core (urbanized area or urban cluster) of at least 10,000 population, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties. (U.S. Census Bureau, 2015).

Combined Statistical Areas (CSAs) - Consists of two or more adjacent core based statistical areas (CBSAs) that have an employment interchange measure (EIM) of 15 or more (U.S. Census Bureau, 2015).

Achievement gap - Achievement gap refers to the observed, persistent disparity of educational measures between the performance of groups of students, especially groups defined by socioeconomic status, race/ethnicity and gender. From year to year, the gap

can either widen or narrow. It is important to consider all scenarios for changing gap. Typically, increasing scores and narrowing gaps are desirable. It is possible for a gap to widen (not desirable) and for scores to increase (desirable) if the sub group does not increase at the same rate as the non-sub group. It is also possible for a gap to narrow when both groups' scores decrease. The ideal gap narrowing occurs when both groups' scores increase with the sub group scores increasing more than the non-sub group. (National Assessment of Educational Progress)

Summary

In order for education to meet the expectation of being the great equalizer of the conditions of man, schools must find effective methods to close the achievement gap between children from low-income families and their peers. This study examined the difference in achievement of students on annual Missouri fourth grade English language arts assessment in schools with high academic optimism versus achievement of students in schools with low academic optimism. The study also examined the impact of poverty level combined with academic optimism on student achievement. Chapter two reviews current literature related to the themes of this study. Chapter three describes the methods used in this study. Chapter four presents the findings of the study. Chapter five reveals the implications of the study results.

CHAPTER TWO

REVIEW OF LITERATURE

Equal opportunity for attainment of the American dream has been commonly linked to equal opportunity for attainment of quality education. Education has been considered the great equalizer of the conditions of man (Cremin, 1957). The constraints of poverty can be a hindrance to educational attainment. School reform efforts and education policy have long focused on overcoming the effects of poverty on student achievement outcomes. Finding school controlled factors capable of overcoming demographic disadvantages is the basis for studies of school effectiveness. This chapter reviews the literature on the effects of poverty on child outcomes potentially resulting in lower school achievement and policy maker efforts to influence schools as a vehicle for overcoming the effects. Next, this chapter reviews the literature on the school level construct central to this research, academic optimism, and the three components working together to form academic optimism.

Poverty's Impact on Student Achievement

Poverty's impact on student achievement is not a direct line relationship between family income and child academic outcomes (Yoshikawa, Aber and Beardslee 2012). Poverty is a complex construct with multiple factors and co-factors. This section reviews the literature on the relationships between family poverty and child outcomes. The multidimensional relationship of poverty and child outcomes can be examined by studying the mechanisms through which poverty affects children and their families. The mechanisms are organized into three levels; institutional level mechanisms, relational level mechanisms, and individual level mechanisms. The mediating mechanisms are

often interrelated and difficult to separate and each has the potential to impact student achievement. The section begins with the conceptual frame of poverty then covers the literature on poverty's impact on the cognitive outcomes of children explained through three levels of mediating mechanisms.

Conceptual framework of poverty.

The federal poverty level is a measure of income level issued annually by the U.S. Department of Health and Human Services (2015). The federal poverty level for a family of 4 in 2015 was $24,250. Adjusted annually, the federal level is used to determine eligibility for certain programs and benefits. For example, children from families with incomes at or below 130 percent of the poverty level are eligible for free meals through the free and reduced meal program provided by public schools. Those with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced price meals through the free and reduced meal program provided by public schools (US Department of Health and Human Services, 2015). Researchers offer other definitions of poverty including absolute poverty, earning less than an objective external standard of meeting absolute needs, relative poverty, earning 60 percent of the national median household income, subjective poverty, earning less than a subjective perception of the amount of income it takes to pay for necessities, and asset poverty, wealth minus debt (Gershoff, Aber, Raver, Lennon, 2007; Haveman, Blank, Moffitt, Smeeding, & Wallace, 2015). Poverty can be defined multidimensionally as lack of means and as the lack of critical resources for human development like health and education (Alkire, 2007). The complex nature of poverty requires discussion of how family income and material hardship impact child education outcomes.

The causal effect of family poverty on child outcomes is well established but the causal relationship is not as simple as income (Dahl & Lochner, 2005; Gershoff, Aber, & Raver, 2003; Seccombe, 2000; Yoshikawa, Aber and Beardslee 2012). Researchers agree that family income matters to children but the research suggest that family income is unlikely to have direct effects on child outcomes (Yoshikawa, Aber and Beardslee 2012). Instead, it is expected that the effects of family income on children are mediated through multiple mechanisms associated with living conditions commonly found where high concentrations of poverty exist (Dahl & Lochner, 2005; Duncan & Brooks-Gunn, 2000; Gershoff, Aber, & Raver, 2003; Mayer, 2002; Seccombe, 2000).

A conceptual model of poverty created by Gershoff, Aber, Rave, and Lennon, (2007) illustrates the complex relationships connecting poverty to child outcomes. Child outcomes include physical and developmental health, emotional and behavioral health, cognitive development, learning, and achievement. The researchers looked at predictors, poverty constructs, parent mediators, and child outcomes. Gershoff et.al. (2007) studied material hardship as a component of the conceptual framework of poverty. Material hardship indices include factors like food insecurity, residential instability, and lack of medical care. The researched indices did not decline significantly until families' earnings were double their poverty level income. Gershoff et al. (2007) concluded family income below the federal poverty level was not enough to adequately describe the relationship to child outcomes and concluded that future poverty studies should include indices of material hardship. Yoshikawa, Aber, and Beardslee (2012) adapted the conceptual model to include additional descriptions. The model helps illustrate the process by which poverty affects child outcomes and how those outcomes can impact school achievement.

Yoshikawa, Aber, and Beardslee (2012) noted the interconnectedness of poverty factors to help conceptualize the complicated nature of disadvantages related to growing up in poverty. The model shows parent and family level predictors of poverty including parent education, marital status, employment status, ethnicity, and documentation status. Predictors lead to interrelated dimensions of poverty including absolute poverty, asset poverty, relative poverty, and social exclusion. The mediating mechanisms presented in the Yoshikawa, Aber, and Beardslee (2012) conceptual model are organized into three levels; institutional, relational, and individual. Institutional level mediators refer to features of a low-income family's broader context; for example, schools, neighborhoods, and work. Relational level mediators refer to quality of family and peer relationships. Individual level mediators refer to individual factors such as nutritional intake and mental health. Literature on mediating mechanisms of poverty helps illustrate how children can be disadvantaged by poverty. Each level can work laterally and linearly to impact child outcomes. For example, poor working conditions at the institutional level can be related to individual stress level in the parent, which in turn can impact the relationship between parent and child. Parental stress level can impact child emotional health and learning outcomes. Child outcomes include physical and developmental health, mental, emotional, and behavioral health, and cognitive development, learning, and achievement. The model shows linear relationships between and among the child outcomes. For example, a child's physical health can impact learning and achievement while learning and achievement impact behavior health.

Cognitive outcomes for children from poverty.

The cognitive outcomes for children of poverty are central to this study particularly those associated with learning and achievement. Academic achievement is often undermined by many of the mediating mechanisms of poverty. Consistent with the conceptual model, Martinez-Perez, Kupczynski, and Mundy (2014) explained poverty mechanisms and outcomes were all directly related to lower student achievement. Korenman, Miller, & Sjaastad, (1995) found evidence of substantial disadvantages in cognitive development among young children in chronically poor families in the United States. Deficits were apparent in five different indices of cognitive or socio-emotional development, including measures of verbal memory, vocabulary, math and reading achievement, and an index of behavior problems (Korenman et al., 1995).

Cognitive functioning directly leads to lower academic achievement particularly when related to the prefrontal cortex. Children from poverty show different brain development than children from middle and upper income families (Diamond, 1988). Diamond used behavior science techniques to identify processing differences in children from low socioeconomic status. Diamond (1988) found children from low SES scored lower on behavioral scales in the areas of working memory, cognitive flexibility and semantic fluency. Diamond connected his findings to the functions of the prefrontal cortex (1988).

The pre-frontal cortex is in charge of abstract thinking, thought analysis, and behavior regulation. This part of the brain allows humans to plan in advance, create goal attainment strategies, and adjust actions when situations change. All of these human abilities contribute to successful outcomes in life. Student achievement is related to the

ability to utilize working memory, adjust actions based on situations, and use critical thinking skills (Moore, Redd, Burkhauser, Mbwana, & Collins, 2002).

Diamond (1988) was not able to pinpoint the cause of behavioral differences observed due to the presence of multiple variables associated with poverty and due to complicated interaction of the human brain. Kishiyama, Boyce, Jimenez, Perry, & Knight, (2009) took Diamond's theory further by studying the electronic waves produced by the prefrontal cortex during particular activities. Electrophysiological study shows prefrontal functions are reduced in children from poverty (Kishiyama et al., 2009). Kishiyama et al. found consistent results in mice when subjected to higher levels of stress and lower levels of cognitive stimulation. Martinez-Perez, Kupczynski, and Mundy (2014) agreed with Kishiyama et al. (2009) finding children from poverty come from less stimulating environments. The researchers sited fewer books in the home, drastically lower exposure to vocabulary, and access to high quality childcare as contributors to achievement gaps as early as age three (Martinez-Perez et al., 2014). Moore et al. (2002) points out not only do children from poverty experience greater levels of stress and live in less cognitively stimulating environments, but also their parents are less likely to value education and have a lower level of education than their affluent peers.

Cognitive outcomes are also influenced by other outcome categories. For instance, children with poor physical health outcomes are absent from school more often. Not being present has an obvious negative impact on learning and achievement (Martinez-Perez & Mundy, 2014). Social and emotional outcomes also impede a child's access to instruction. Children with social and emotional issues spend more time off task and out of the classroom than their well-adjusted peers (Martinez-Perez & Mundy, 2014).

An additional contributor to academic achievement is a higher rate of school mobility. Children from poverty tend to change schools resulting from instability in housing (Martinez-Perez & Mundy, 2014). Each of the factors contributes to reduced educational outcomes for children from poverty.

Consistent with the conceptual map created by Yoshikawa, Aber, and Beardslee (2012), poverty's impact cognitive development happens indirectly through mediating mechanisms. Many factors can contribute to cognitive differences in children from poverty. Regardless of the combination of factors that lead to it, children from lower income families have lower cognitive functioning that their higher income peers (Moore et al., 2002).

The National Center for Education Statistics (2009) reports multiple measures to highlight the negative effect of poverty on academic achievement. Data from the Early Childhood Longitudinal Study shows children ages two and four from poverty perform well below those at or above poverty in the areas of listening comprehension, expressive vocabulary, letter recognition, numbers, and shapes (Coley & Baker, 2013). The Condition of Education Reports shows a 29 point difference in reading scores of fourth grade students who qualify for free and reduced lunch program and a similar difference for eighth grade students (Aud et al. 2011). Seniors at the lowest level of family income scored 100 points lower than student at the highest level of family income. These educational disparities continue into college. The percentage of students completing college shows a large disparity between low-income students and high-income students. Even though college completion percentages have increased for students from all income

levels, those in the top income quartile increased at a greater rate than those in the bottom quartile increasing the gap between the two groups (Coley & Baker, 2013).

Institutional level mediating mechanisms.

The institutional level factors refer to the broader context of poverty occurring in parental employment, neighborhood structures, and schools. These factors are found in common characteristics of social constructs and common social experiences associated with poor people (Yoshikawa, Aber, & Beardslee 2012). Poverty's negative impact on student achievement can be tied to common institutional mechanisms.

The nature of low-income employment is one of the institutional mechanisms used to study the outcomes of children from low-income parent. Low-income parents experience significantly higher incidents of low job quality and job insecurity (Yoshikawa, Aber, & Beardslee, 2012). Quality features of parental employment include higher physical hazards and tedium, few benefits, and little opportunity for advancement. Each of these features acts to adversely affect child outcome measures (Yoshikawa, Aber, & Beardslee, 2012). Children from parents in low quality job patterns show indicators of concern across cognitive and behavioral outcome measures. Concerns are compacted when job quality and job insecurity are considered together (Lombardi & Coley, 2013).

Parents in low-wage jobs experience higher rates of job insecurity and job loss than those in higher wage jobs. Job loss adversely affects child outcomes by impacting economic security and the access to resources leading to reduction in food expenditures, housing insecurity, increased reliance on public assistance, and reduced parental psychological resources (Kalil, 2009). Economic insecurity and psychological distress are linked to inability to provide effective caregiving and higher levels of behavior

problems in children (Yoshikawa, Aber, & Beardslee 2012). Job loss also can bring about difficulties in the marital relationship and increases the likelihood of marital breakup, both of which are also associated with mental, emotional and behavioral problems in children (Kalil, 2009).

Neighborhoods are another institutional mechanism impacting child outcomes from the conceptual model of poverty. Neighborhoods with high concentrations of poverty can have predictable characteristic including delinquency, violence, depression, and high-risk behaviors. Neighborhood characteristics account for some differences in each child outcome category between children from low-income families and those from high-income families (Sampson, Morenoff, & Gannon-Rowley, 2002). For instance, after controlling for multiple factors from relational and individual mechanism categories, children from high poverty neighborhoods are more likely to drop out of high school and have teenage pregnancies than those from low poverty neighborhoods (Harding, 2003). Harding's research also found significant differences in access to relational resources that support improved child outcomes like neighbors' ability to support each other and intervene on each other's behalf and availability of programs promoting positive development, such as structured youth programs (Harding, 2003).

Low-quality schools and classrooms is the third institutional level mechanism presented in Yoshikawa, Aber, and Beardslee's (2012) model. Concentrated levels of poverty can influence the quality of education accessed by children from low-income families. Children from poverty are more likely to attend schools that have lower funding, inadequate facilities, lower teacher quality, fewer resources and lower rigor than schools in more prosperous neighborhoods (Moore, 2012).

Since 1965, Federal education law has existed in part to equalize school funding for children from low-income families but financial resources in high poverty areas are still often less than financial resources in low poverty areas (Roza, 2006). A 2015 national funding gap analysis by the Education Trust found highest poverty districts receive about $1,200 less per student than the lowest poverty districts (Ushomirsky, & Williams, 2015). The analysis also looked at the compounded disparity when accounting for the increased cost of educating a child from poverty. Beyond standard curricula, high poverty schools may need materials to help build vocabulary and background knowledge, extra learning time, or liaisons with outside service providers, such as the healthcare or foster care systems. Researchers made the conservative assumption that it costs a district 40 percent more to educate a student in poverty than a student not in poverty (Ushomirsky, & Williams, 2015)

Filardo, Vincent, Sung, and Stein (2006) studied disparities in funding districts receive for facilities. The researchers found the poorest communities received on average five thousand dollars less per student in community investment than the wealthiest communities. Fildaro et al. (2006) also found facilities money received by schools serving students from low-income families was more likely to fund basic repairs, such as new roofs or asbestos removal, while schools in more affluent districts were more likely to receive funds for educational enhancements such as science laboratories or performing arts centers leading to disparities in access to quality educational programs for children from poverty (2006).

Other school equality research measures discrepancies in teacher quality in high poverty schools. Peske and Haycock (2006) studied child cognitive outcomes related to

teacher quality. Children from low income families are disproportionately assigned to teachers with less experience, less education, and less skill than those who teach other children accounting for some discrepancies in student achievement (Peske & Haycock, 2006). Children in high poverty schools are assigned to first year teachers twice as often as children in low poverty schools and classes in high-poverty schools are more likely to be taught by teachers without a major or minor in the subject they teach impacting student achievement outcomes (Jerald, 2012).

Teacher quality and child behavior outcomes are also interrelated. In addition to other mechanisms influencing low-income children's social, emotional and conduct problems, research shows novice teachers have less developed classroom management skills and have higher overall levels of classroom aggression, peer rejection and exclusion (Kellum et.al., 1998). Research also shows teachers serving predominantly low-income children use more severe, detached, and ineffective teaching strategies than those teaching middle-income children (Webster-Stratton, Jamila, & Stoolmiller, 2008).

School quality also influences outcomes for low-income children through the rigor of curriculum offered and accessed. High poverty schools offer fewer upper level math and science, advanced placement, and dual credit courses than low poverty schools (Roza, 2006). A 2004 study found 28 percent of low-income students were enrolled in a college-preparatory curriculum compared to 65 percent of high-income students (Lotkowski, Robbins, & Noeth, 2004). Similarly, a 2008 study found that only 21 percent of students in the lowest socioeconomic quintile graduated high school prepared for college, compared to 54 percent of those in the third, fourth and fifth quintiles (Steinberg & Almeida, 2008).

Relational level mediating mechanisms.

Relational level mechanisms are poverty factors dealing with quality relationships with family members and peers (Yoshikawa, Aber, & Beardslee, 2012). Much of the research on relational mediating mechanisms of poverty focuses on parenting behaviors or parenting style and conflict in relationships. Yoshikawa, Aber, and Beardslee's (2012) conceptual model reveals how the multidimensional nature of the relationships between and among the factors of poverty makes it difficult to isolate variables for research purposes. For instance, institutional factors can cause stress on marital relationships and in turn influence parenting style or parental attentiveness to child. This section will focus on research related to relational level mechanisms operating in low-income families and mechanism connections to child outcomes.

Themes found in relational level poverty mechanism research include how characteristics of nonresponsive and harsh parenting practices as well as family turmoil and discord affect child's emotional health, physical health, and cognitive development (Duncan, Brooks-Gunn, & Klebanov, 1994; Conger, Conger, & Scaramella, 1997; Emery & Laumann-Billings, 1998; Repetti, Taylor, & Seeman, 2002). Environmental and economic pressures associated with poverty increase levels of parental anxiety, depression, and restlessness and incidents of parent-child and marital conflicts. Low-income children in comparison to middle-income children are exposed to greater levels of violence and family disruption. Emery and Laumann-Billings (1998) found household income to be inversely related to exposure to familial violence. Low-income parents are more than twice as likely to use corporal punishment as a discipline method in the home (Emery & Laumann-Billings, 1998). While parents in high income categories were six

times more likely than low-income parents to use child-centered, responsive parenting methods (Repetti, Taylor, & Seeman, 2002). Turmoil connected to high levels of irritability, coercive exchanges around money, and spousal conflict is associated with harsh parenting and greater anger toward children leads to increased likelihood of adolescent emotional and behavioral problems (Conger, Conger & Scaramella, 1997). Research also shows the duration of poverty strengthens the likelihood of harsher, less responsive parenting and worsened emotional and behavioral outcomes (Miller & Davis, 1997, Conger, Ge, Elder, Lorenz, & Simons, 1994; Conger, Conger, & Scaramella, 1997). Emery and Laumann-Billings (1998) also found connections between harsh parenting styles, increased exposure to violence, and lower academic achievement. Children experiencing increased incidents of violence in the home were more likely to have behavior issues in school. Poor behavior in school led to lower achievement scores through lost learning time and time out of the classroom (Emery & Laumann-Billings, 1998).

Academic achievement and family income have also been linked in research on parental attentiveness. The time a parent spends in positive interactions is directly related to positive child outcomes in each of the categories (Hoff, Laursen, & Tardiff, 2002). High quantity and quality parent-to-child speech and exposure to print media enhance cognitive development and social-emotional bonding (Hoff, Laursen, & Tardiff, 2002). Hart and Risley (1995) found that low income parents were more likely than high income parents to give harsh direct orders regarding child behaviors and less likely to speak to their children for the purpose of initiating or sustaining a topic conversation. Hart and Risley (1995) found that parents above the poverty line were twice as likely to engage in

positive cognitive activities with their three to five year old children as parents below the poverty line. Activities included engaging in structured games, reading books, engagement in conversation, and going to the library. Parental attentiveness and engagement in positive cognitive activities is directly related to improved social-emotional and cognitive outcomes (Hart & Risley, 1995).

The common relational characteristics within low-income families are plagued with turmoil, violence, and instability (Javanbakht, 2015). Parenting styles are more nonresponsive and harsh, and households are more chaotic, with fewer routines, and less structure. These relational factors are mechanisms by which poverty impacts the emotional, behavioral, and physical outcomes of children (Yoshikawa, Aber, & Beardslee, 2012). As with institutional mechanisms, relational level mechanisms are intertwined with individual level mechanisms impacting student achievement.

Individual level mediating mechanisms.

Individual mechanisms refer to poverty related factors at the individual level including parent physical and mental health, child physical and mental health, levels and effects of stress, and child behavior (Yoshikawa, Aber, & Beardslee, 2012). Individual level mechanisms linked to poverty can be both outcomes and factors through which other outcomes are impacted. For instance, mental health outcomes could be a factor in loss of employment and poor physical health could be a factor in school attendance possibly impacting achievement.

Physical health works as an individual mechanism for poverty child outcomes (Yoshikawa, Aber, & Beardslee, 2012). Members of poor families are more likely to experience health problems in childhood and as adults. Brooks-Gunn and Duncan (1997)

found poor families were twice as likely as non-poor families to self-report having poor health and childhood hospital visits. Children from poor families were nearly four times more likely to have stunted growth and ten times more likely to experience adverse effects of malnutrition. Moore, Redd, Burkhauser, Mbwana, & Collins (2002) found children from poverty experience more accidents and injuries than children who are not living in poverty. The researchers also found children from poverty are more likely to experience chronic conditions such as asthma, anemia, and pneumonia (Moore et.al., 2002). Brooks-Gunn & Duncan (1997) report poor children suffer health effects caused by their environment as well. Specifically, children from poverty are more likely to suffer from environmental hazards like lead poisoning and exposure to toxic waste (Brooks-Gunn & Duncan, 1997).

Increased levels of stress in low-income families are related to physical health issues. Parents' poverty related stress could affect children's physical health through prolonged triggering of biological stress mechanisms or their immune systems (Blair & Raver, 2012). Blair and Raver (2012) found direct relationships between parental perceived stress levels and incidents of child illnesses. These incidents of child illness can also impact cognitive and achievement outcomes for children. Levels of stress can cause disease later in life. Research in epigenetics suggests genetic factors associated with disease can be activated through environmental adversity such as chronic poverty (Knudsen, Heckman, Cameron, & Shonkoff, 2006). Stress levels have also been linked to child behavior outcomes.

Child behavior is an outcome measure and an individual level mechanism of poverty (Yoshikawa, Aber, & Beardslee, 2012). As an individual level mechanism, child

behavior can impact parental stress levels and school achievement. Coercive family dynamics like those found in low-income families are connected to the development of conduct problems (Patterson 1976, 1990). Smith, Dishion, Shaw, Wilson, Winter, and Patterson (2014) looked at the emergence and persistence of conduct problems as a significant predictor of school behavior problems. The parent-child coercive cycle described in Patterson's coercion theory (1976) explains a strong predictive relationship between coercive interactions and child conduct problems. The coercion theory describes how aggressive behaviors are developed in low-income households. Harsh parental responses to problem behaviors result in aversive and aggressive responses from the child having a cascading effect reinforcing problem behaviors. With frequency and duration, coercive exchanges become predictive of school aged conduct problems. Patterson theorized child behaviors preceded coercive exchanges (Patterson, 1976). Smith, working with Patterson, utilized more advanced research methods to show the path from coercive exchanges to child behaviors was stronger than the path from child behaviors to coercive exchanges (Smith, Dishion, Shaw, Wilson, Winter, & Patterson, 2014).

Individual level mechanisms are linked to child behavioral, cognitive, and physical outcomes. Parent physical and mental health, child physical and mental health, levels and effects of stress, and child behavior factors work laterally influencing relational level and institutional level mechanisms as well as linearly influencing child outcomes (Yoshikawa, Aber, & Beardslee, 2012). Some studies have focused on the existence, causes, and ways to overcome the achievement gap between low-income and higher-income students (Dellamora, 2009; Eddy, 2008; Holmes, 2012). The results of such studies are inconsistent in conclusions. Eddy (2008) identifies internal responses

effective in closing the gap while Dellamora (2009) concludes school programs and initiatives can have no impact on the achievement gap. The Center on Education Policy (2007) reports the achievement gap is narrowing while Blank (2007) and Reardon (2011) find it is widening. Closing the achievement gap remains a top priority of school reform effort.

The relationship between poverty and education is widely believed to be reciprocal (Yoshikawa, Aber, & Beardslee, 2012). Poverty has a negative relationship to educational outcomes while the education system is centered on the expectation of overcoming poverty. The effects of poverty are difficult to surmount, but educators will continue to strive for social equity through education. The next section reviews the research associated with rural poverty characteristics and highlights the lack of research specific to rural poverty.

Rural Poverty

Over 9.7 million students are enrolled in rural school districts in the United States, accounting for 20.4 percent of all public school students (Johnson, Showalter, Lester & Klein, 2014). More than two in five of those rural students qualify for federally subsidized free and reduced school meals. Total rural school student population growth rates exceed population growth rates of non-rural districts as measured by both short term and longer range trends (Johnson et al. 2014) and the gap between rural and urban child poverty has grown since 1990 (O'Hare, 2009) making it more likely for rural children to live in poverty. The Midwest is home to 25 percent of the nations rural poor and the child poverty rate has increased by 3 percent since 2000, which is more than any other region in the nation (O'Hare and Savage, 2007). Not only are rural children more likely

to live in poverty, the rural poor tend to be poor for longer periods of time and are more likely to live in deep poverty with family income less than 50 percent of the poverty threshold (O'Hare, 2009). Johnson, Showalter, Lester, and Klein (2014) concluded rural education is becoming a more complex part of the United States educational setting and it is impossible to ignore the relevance of rural students, schools, and communities.

Pickering, Harvey, Summers, and Mushinski (2006) found differences in impact of rural poverty mediating mechanism on low-income families when compared to urban counterparts. For instance, the researchers noted barriers to moving from welfare to work specific to poor rural families including lack of transportation and lack of access to childcare (Pickering et al., 2006). Other researcher shows rural poor families have more limited access to specialized resources like medical and mental health care than urban poor families and rural families rely on the school to provide expertise in a variety of areas (Hoyt, Conger, Valde, & Weihs, 1997). Hoyt et al. (1997) also found fewer incidents of rural adults seeking mental health care for psychological distress when compared to urban adults. The researchers related the finding to a stigma associated with mental healthcare unique to rural communities. Rural areas differ from urban areas. Rural poverty can be distinguished from urban poverty through different access to resources, different economic structures, different institutions, different social norms, and different demographics (Fluharty, 2004). Although the mediating mechanisms of poverty can differ by location, the impact of poverty on student achievement in rural schools is similar to the impact in urban areas (O'Hare, 2009).

Research specific to rural poverty is lacking. The circumstances and consequences of rural poverty receives disproportionate acknowledgement by policy

makers and researchers when compared to urban poverty (O'Hare, 2009; Fluharty, 2004). A literature study conducted by researchers from the Midcontinent Research for Education and Learning (McREL) on the condition of rural education research revealed there has been little research that can be used reliably to inform policy and practice about rural education issues. The researchers found no topic with a sufficient body of research specific to rural schools and concluded the condition of rural education research is poor (Arnold, Newman, Gaddy & Dean, 2005). The next section provides a historical look at societal attempts to overcome the negative impact of poverty on education primarily through federal financial support for students in poverty. The section attempts build a basis for understanding current education emphasis on finding effective ways to overcome inequalities in student outcomes particularly for students from low-income families. The literature reviewed provides historical perspective of education reform goals related to equal access and school effectiveness.

Historical Perspectives of Federal Focus on Educating Students From Poverty

Education can be a means of bettering society and providing opportunities to every citizen. The values of the society are reflected in the education system and as society changes, school systems are called to reform. This section reviews the history of education reforms and policies focused on overcoming the life attainment gap associated with income and the achievement gap for children from low-income families. Two ideas are present in the historical perspective; education as a means of providing equal opportunity to children from poor families and school effectiveness measured by student achievement outcomes particularly for children from low-income families. Historical and current school reform efforts are focused on equality and achievement outcomes.

Equal access to effective schools.

Ensuring equal access required early state governments to make provisions for educating the poor. Colonies and states defined education systems in laws as a means to ensure all citizens were educated. Pennsylvania constitution in the mid 1700's included free public education for the poor, while those with means were expected to continue to pay for education. The notion of government supported free public education for all spread as a national topic of discussion after the American Revolution. Thomas Jefferson proposed a two-track education system separating laborers and the learned with an aim to keep the poor from being excluded by the wealthy (Pulliam & Van Patten, 1999).

In the 1800's, the focus of equal access was joined by a push for effectiveness of schools. Not only did society expect everyone to have access to education, but also education was expected to equalize discrepancies found in society between different social classes of people (Cremin, 1957). Horace Mann, often called the Father of Common Schools, championed education as the absolute right of every human being because education is the great equalizer of the conditions of men. In the 1800's, Mann pointed to discrepancies between land owning and working class men and how discrepancies negatively impacted society touting Common Schools as a solution (Cremin, 1957). Common Schools provided consistency in curriculum and teaching methods to maximize the effectiveness of schools within and across state boundries (Stone, Henig, Jones, & Pierannunzi, 2001). The late 1800's were marked by school effectiveness reform through increased teacher education and research focused on effective teaching and learning methods (Stone et.al, 2001).

Early federal legislation.

Federal guidance on education increased in the mid 1900's with the goals of improving equal access to education and school effectiveness (Stone et.al, 2001). The increase in federal guidance was initiated by two historical events. The landmark Supreme Court decision in Brown v. Board of Education in 1954 declared state laws establishing separate public schools based on race unconstitutional (Darling-Hammond, 2010). The 1957 launch of Sputnik by the Russians led to heighted awareness of school effectiveness. The National Defense Education Act authorizing increased funding for science education and the call for more rigorous curriculum in schools to meet global competition demands (Stone et.al, 2001). This legislation included support to teachers through graduate fellowships to improve the teaching of science, mathematics and foreign languages. Simultaneously, rising concern around academic outcomes focused the nation on segregation issues and global competition in math and science (Stone et.al, 2001). Although the goal of equal access was altered slightly by a focusing specifically on racial and ethnic equality, national focus was on school equality and school effectiveness.

The War on Poverty.

The focus of education returned to include equality for children from poverty with the War on Poverty. The 1960's were an era of heightened consciousness about the meaning of equal opportunity and alleviating the conditions associated with poverty (Pulliam & Van Patten, 1999). In January 1964, President Lyndon Johnson declared in his state of the union address: "This administration today, here and now, declares unconditional war on poverty in America. Our chief weapons in a more pinpointed attack will be better

schools, and better health, and better homes, and better training, and better job opportunities to help more Americans, especially young Americans escape from squalor and misery and unemployment rolls." (U.S. Senate Committee on Labor and Public Welfare, 1965, p.42). The speech led the United States Congress to pass the Economic Opportunity Act, which established the Office of Economic Opportunity to administer the local application of federal funds targeted against poverty. Johnson believed in expanding the federal government's roles in education as a poverty reduction strategy. Johnson's state of the union address in 1964 outlined the goal of his administration's war on poverty was to relieve the symptoms of poverty and prevent poverty from impacting future generations through increased funding to improve teaching and learning (Rector & Sheffield, 2014).

The Elementary and Secondary Education Act of 1965 (ESEA) expanded the role of federal government in education with a goal to strengthen and improve educational quality and educational opportunities in the nation's elementary and secondary schools (Stone et.al, 2001). The law provided funding in four educational areas: schools with high levels of poverty, libraries and instructional materials, educational research and training, educational centers and services, and stronger state agencies. Johnson recognized the inequalities found in regions of the United States with higher concentrations of poverty particularly central urban areas (Stone et.al, 2001). The first section of the ESEA law, known to educators as Title 1, specifically addressed inequalities caused by poverty by providing financial assistance to local education agencies for the education of children of low-income families (U.S. Senate Committee on Labor and Public Welfare, 1965).

Winning the war on poverty required schools to overcome the impact of poverty on student achievement. The funding provided by ESEA inspired researchers to find factors contributing to school effectiveness (Stone, Henig, Jones, & Pierannunzi, 2001). In 1966, the United States government commissioned a team of researchers to do a comprehensive study of student achievement. The report entitled Equality of Educational Opportunity, commonly referred to as The Coleman Report, found a significant gap between the achievements of black and white students and students from different social classes (Coleman, 1966). The Coleman Report asserted student social class was the primary factor in educational realization. The report concluded school and teacher quality have little to do with student achievement (Coleman, 1966).

Consistent with the goals of the Elementary and Secondary Education Act, overcoming poverty remained an aim of education even after the Coleman Report. Multiple researchers refuted Coleman's claims when the report was released (Saphier & King, 1985; Astuto & Clarke, 1985). The Coleman Report sparked a movement in education research known as the Effective Schools Movement (Brookover & Lezotte, 1979; Edmond & Frederikson, 1979; Phi Delta Kappa, 1980). Researchers associated with the Effective Schools Movement systematically examined schools in an attempt to dispel public perception of schools as ineffective in overcoming poverty. Effectiveness of schools was measured by ability to overcome poverty. Researchers identified schools with high achievement and high poverty and studied the unique characteristics believed to set them apart from low achieving schools. Edmond's research on effective schools kept school reform issues in the spotlight. According to Edmonds (1979), five school characteristics have significant effect on student achievement beyond student

background: strong principal leadership, high expectations, emphasis on basic skills, an orderly environment, and frequent and systematic student assessment. Edmond's five-factor model was considered a framework for reforming low performing schools and termed the Effective Schools Correlates. (Raptis & Fleming, 2003). Future researchers supported Edmonds findings both qualitatively and quantitatively (Bryk, 2010; Hoy, Tarter, & Woolfolk Hoy 2006a; Skrla & Scheurich, 2002). The Effective Schools Correlates have provided a foundation for research on the controllable factors leading to student achievement.

At the time of Johnson's educational reform efforts and early effective schools research, education was characterized by a great deal of independence and autonomy (Hargreaves & Shirley, 2009). The social attitude of the 1960's and early 1970's was one of independence, experimentation, and innovation. Society trusted schools, government supported schools, and teachers were left to get the job done. There was an optimistic passion in education. However, there was also a great deal of inconsistency. Education was unregulated and practices were not systematic (Hargreaves & Shirley, 2009).

Societal focus on the importance of education outcomes changed in response to global competition in the 1970's. School effectiveness descriptions were altered to include measures of preparation for the working world for all students and dissatisfaction with school outcomes were public discussions (Present, 2010). The optimistic passion in education and societal trust of schools changed along with the national economy in the early 70's (Hargreaves & Shirley, 2009). One factor potentially contributing to rising distrust in education was the United States no longer enjoyed uncontested economic, political, and military dominance over the capitalist world. The United States

government encouraged reconstruction of economies in Western Europe and Japan. Reconstruction efforts were used to undermine the appeal of communism in those countries and to demonstrate the superiority of capitalism to the rest of the world. Western Europe and Japan revitalized manufacturing and became competitors of major industry in the United States (Present, 2010). High unemployment rates, increased federal programs and regulations, and raising inflation rates helped to mold the erosion of trust in schools (Hargreaves & Shirley, 2009). Financial crisis raised concerns about the quality of education. The positive outcomes of the concerns include a new sense of urgency for all students to achieve educationally and a new focus on consistency among schools (Hargreaves & Shirley, 2009).

A Nation at Risk.

Inflation and interest rates continued to climb in the 1980's leading to heightened awareness of government role in overcoming the effects of poverty. At the same time, global economic competition again amplified the sense of urgency for school effectiveness measured by student achievement. This era marks a shift in the stated goals in education policy of equality and effectiveness to include competitiveness with global industrialized nations as measured by academic achievement scores (Present, 2010). The 1980 candidate platform of Ronald Regan included giving education control back to states, but his agenda changed after the release of a report by the National Commission on Excellence in Education (Stone, Henig, Jones, & Pierannunzi, 2001). Schools considered excellent had globally competitive achievement scores. Secretary of Education T. H. Bell created the National Commission on Excellence in Education in 1981, directing it to examine the quality and effectiveness of education in the United

States and to make a report to the Nation. The Commission was created as a result of the Secretary's concern about the widespread public perception that "something is seriously remiss in our educational system" (Gardner, 1983 p.4). The Commission report, A Nation at Risk, shed light on inequalities in education and the failings of the American education system. According to the report, American students were never first and frequently last academically compared to students in other industrialized nations, student achievement declined dramatically from 1957 to 1981, Scholastic Aptitude Test scores fell markedly between 1960 and 1980, student achievement levels in science were declining steadily, and business and the military were spending millions on remedial education for new hires and recruits (Gardner, 1983).

As a result of A Nation at Risk, President Regan defined education reform by denouncing government spending and supporting tougher standards, more homework, merit pay for teachers, discipline, and parental control (Peters & Woolley, 1984). A new focus on school accountability through standardized testing and market system competitive values steered education in a new direction. Society sought ways to keep track of education progress and school effectiveness (Peters & Woolley, 1984). Accountability pressures, competition, economic and societal changes, and the reality of student achievement converged to create an extreme sense of urgency in schools. The reform environment focused on finding systematic, programmatic, pedagogical, and philosophical fixes to education problems outlined in A Nation at Risk (Hargreaves & Shirley, 2009). School leaders and policy makers implemented market based strategies in an effort to help the education system run like a successful and efficient business. The

1980's marked the beginning of common standards and consumer choice in education with focus on school improvement (Hargreaves & Shirley, 2009).

Edmond's (1979) Effective School Correlates can be found in much of education policy in the 1980's and 1990's. The 1988 amendment to ESEA, Hawkins-Stafford Elementary and Secondary School Improvement Act, refocused Title 1 on school improvement by adding incentive grants, increased achievement expectations for disadvantaged students by expanding evaluation requirements, provided funding for drop-out prevention, and designated funding to increase parent involvement (Congress U. S., 1988).

Goals 2000.

The next re-authorization of the Elementary and Secondary Education Act occurred in 1994 with the Improving America's Schools Act (IASA) along with the adoption of national education reform goals, Goals 2000: Educate America Act. The candidate platform of Bill Clinton in 1991 included school improvement through higher standard and common curriculum (Schwartz & Robinson, 2000). Goals 2000 was the centerpiece of the Clinton administration's education reform program. The impetus for the creation of national goals came from the National Governors' Association. Goals 2000 gave states more flexibility and control over resources, in return for a commitment to accountability for results (Schwartz & Robinson, 2000). Goals 2000 and IASA focused on high standards holding schools accountable for the results of economically and socially disadvantaged students at the same level of other students. The purpose of Title 1 funding stated in IASA was to help disadvantaged children meet high standards. The act affirmed the urgent need for educational improvement in schools with high

concentrations of children from low-income families in order to meet the National goals of Goals 2000. Disadvantaged children were defined as low-achieving children in the highest-poverty schools, children with limited English proficiency, children of migrant workers, children with disabilities, Indian children, children who are neglected or delinquent, and young children and their parents who are in need of family-literacy services. The definition of a high poverty school was changed from 75 percent free and reduced lunch to 50 percent free and reduced lunch. Title I and other programs funded under the act sought to narrow the achievement gap between children in high-poverty and low-poverty schools (Congress, 1994a). Goals 2000 included objectives for the achievement of minorities as a subgroup in achievement and school completion data. The goals also included a focus on parental involvement and called on parents and families to hold schools to high levels of accountability (Congress, 1994b).

No Child Left Behind.

The education reform efforts from 1970 to 2000 steadily increased the standardization of education in America. The period strengthened education by providing consistency and focus (Linn, Baker, & Betebenner, 2002). There was a new sense of urgency to push all students to high levels of learning. Standardized testing, competition raised by public display of test scores, state mandated standards and prescribed curriculum, sanctions for failure, and politically dictated priorities eroded teacher satisfaction and led to decreased teacher quality and higher rates of teacher turn-over (Hargreaves & Shirley, 2009). The 2002 reauthorization of ESEA, known as No Child Left Behind (NCLB), placed new emphasis on accountability measures aimed to identify low performing schools on state assessments (Linn, Baker, & Betebenner, 2002).

Legislators aimed to increase the quality and effectiveness of the entire education system, especially those with low achievement levels (National Center for Educational Statistics & Institute of Education Sciences, 2007). The law begins with two clearly stated purposes. The first purpose is to ensure all students have the opportunity to obtain a high quality education. The second purpose is to ensure all students reach proficiency on state tests by the 2013-2014 school year (NCLB, 2002, sec.6301). Accountability and consistency of standards raised the bar but provided little support to district in how to reach it. The pressures on schools were considered primarily punitive and top-down. Several punitive measures are associated with NCLB, but few rewards (Dellamora, 2009). The reauthorization called for publically reported test scores for states, districts, and individual schools including disaggregated data for target population groups. States were given new centralized requirements for assessments and districts were required to report the scores for 95 percent of enrolled students and for each of the designated student sub-groups including special education, ethnicity, and low SES (Linn, Baker, & Betebenner, 2002). The law also set specific targets for yearly performance improvement. Schools not meeting student improvement targets of Adequate Yearly Progress three consecutive years faced consequences. Consequences included providing bussing for schools of choice, contracting with outside agencies for tutoring programs and eventually restructuring the school in one of five specifically mandated ways resulting in changes in leadership and staff (NCLB, 2002).

The intended outcomes of NCLB meant increased accountability and public reporting of student scores by sub-groups. Ensuring all students reach proficiency on grade level assessments required an increased awareness of students, schools, and

districts not performing to proficiency standards on state assessments (Linn, Baker, & Betebenner, 2002). The public nature of the data was expected to encourage schools and districts to focus on research based strategies to improve achievement for all students (Dellamora, 2009). There is debate about NCLB and its intended outcomes for education. Holmes (2012) summarized research related several areas of negative outcomes of the accountability measures of NCLB. Concerns about narrowed curriculum for disadvantaged students particularly in the areas of social studies, health and wellness, and the arts could negatively effect the education of youth but are unmeasured outcome areas (Gray, 2006). As schools focus on the achievement areas of math and reading, other curricular areas become secondary. Holmes also writes about increasing levels of teacher burnout as another measureable negative outcome of NCLB (Holmes, 2012). Hanson found that elementary teachers of assessed subjects reported statistically significant level of emotional exhaustion when compared to their peers who did not teach assessed subjects (Hanson, 2006).

According to Gray (2006), No Child Left Behind resulted in dumbed down standards, narrowed focus of instruction, and a climate of fear of punishment across the education system. Schools were left to deal with punishments for inability to meet unrealistic standards. The focus on failure reinforced the eroding public perception of the education system (Hargreaves & Shirley, 2009). The expectation of 100 percent proficiency by 2014 was shown to be unfeasible. Schools continued to struggle to close the gap in achievement for disadvantaged youth. The school improvement efforts and accountability measures of NCLB were not effective in closing the achievement gap. There are differing opinions of the impact of high-stakes testing on student achievement

and the narrowing of the achievement gap (Holmes, 2012). The Council of Chief State School Officers (Blank, 2011) analysis of student achievement found, since the onset of NCLB required grade level assessments, most states made significant gains in achievement levels of socioeconomically disadvantaged students. However, the achievement of non-disadvantaged students improved as well. The research results are mixed for whether the disadvantaged are improving at a greater rate than the average student, which is the intent of federal policy (Blank, 2011; Holmes, 2012; Reardon, 2011, Center on Education Policy, 2007, 2011). Until recently, relatively little research has explicitly examined trends in the socioeconomic achievement gap. Some researchers argue that the gap is narrowing (Center on Education Policy, 2007, 2011) while others say it is widening (Blank, 2011; Reardon, 2011). Closing the achievement gap remains a top priority of school reform effort. In the era of accountability and public reporting of student achievement scores, responsiveness to the disproportions in student achievement is one focus of the education system (Gray, 2006).

The 2008 election of Barak Obama brought some changes to the reform agenda for education. The guiding principle of education goals stated the United States' economic competitiveness and the path to the American Dream depended on providing every child with an education that will enable them to succeed in a global economy that is predicated on knowledge and innovation (White House, 2015). Obama increased the focus on community engagement and teacher innovation while continuing to focus on previous concerns with consistency and teacher quality. The contentious debate for common standards across states was and is a public sector discussion (Ravitch, 2011; Porter, McMaken, Hwang, & Yang, 2011). The early part of the 21st century is marked

with partisan politics that stalled reauthorization of ESEA. The 2007 reauthorization attempt did not pass the legislature and debates continued over what was best for education (Porter et al., 2011). In 2011, the US Department of Education announced a policy allowing states to waive a number of important requirements of NCLB including the requirement that 100 percent of students are proficient by 2014. The waiver came with contingency requirements aligned to the new administration's reform agenda (Porter et al., 2011). States receiving the waiver could avoid sanctions by establishing college and career ready expectations for all students, designing and implementing differentiated accountability, recognition, and support policies and systems, implementing teacher and principal evaluation and support systems that use multiple measures including student growth data, and evaluating current administrative requirements for efficiency (White House, 2015). The administration also provided grant fund to states and districts through the Race To the Top initiative. The Race to the Top competitive grant program was created to spur innovation and reforms in state and local district K-12 education (Ravitch, 2011; Porter et al., 2011). The ED Recovery Act funded the competition as part of the American Recovery and Reinvestment Act of 2009. States were awarded grant points for satisfying certain educational policies, such as performance-based standards in teacher evaluation often referred to as an annual professional performance reviews, complying with rigorous academic standards initiative, lifting caps on charter schools, turning around the lowest-performing schools, and building data systems. Race to the Top was a driving force in state adoptions of the Common Core State Standards with aligned standardized assessments (Porter et al., 2011).

Every Student Succeeds.

In 2015, Elementary and Secondary Education Act was reauthorized as the Every Student Succeeds Act (ESSA). The reauthorization reversed many of the sanctions of NCLB and rejected overuse of standardized testing. The bill increased state and district flexibility by eliminating one-size-fits-all mandates and continues to be considered a civil rights law by focusing assurances on America's disadvantaged youth (White House, 2015). Title 1 of ESSA shapes the expectation that all students will meet high academic standards that prepare them for college and career and directs states to redirect resources to underperforming schools with focus on the lowest-performing schools, high schools with high dropout rates, and schools with achievement gaps (Congress, 2015). Two main themes are present throughout ESSA. The first is the loosening of federal control and mandates by giving control by to the state education agencies. The second is a focus on college and career readiness skills for all students.

Equality at the foundation, education reform efforts have taken many forms and directions. The most impactful on education are reform programs of national administration brought about through federal policy (Stone, Henig, Jones, & Pierannunzi, 2001). Society and education are symbiotically linked. The conditions within society seem to dictate education reform emphasis while the ambitions of reform hope to positively influence society (Stone et.al, 2001). The foundations of education reform are improved school effectiveness and equal opportunity including overcoming poverty's affect on achievement. "Inequity in American schools derives first and foremost from our failure to educate the children of the poor" (Edmonds, 1979, p. 15). Identifying effective means of overcoming poverty's negative impact on student achievement is not

only a historical goal of school reform and a current goal of education policy, but also central to this study. The next section reviews the literature on the school level factor associated with this study, academic optimism. The section begins with an overview of the construct and then reviews literature associated with the three interdependent components of academic optimism; academic emphasis, faculty trust in clients, and collective efficacy.

Academic Optimism

Academic optimism is a general latent construct comprised of three interdependent school characteristics: academic emphasis, faculty trust in clients, and collective efficacy (Hoy, Tarter & Woolfolk Hoy, 2006). Finding the features and characteristics of effective schools capable of overcoming the external factors contributing to achievement is the key to school reform. Effective school characteristics outlined in much of the research are correlations not causal relations. Some authors suggest the interactions of characteristics are more important than individual characteristics (Brookover & Lezotte, 1979; Edmonds, 1979a-b; Edmonds & Frederiksen 1979). Hoy and his colleagues have been a part of effective schools research for over forty years. Hoy's team completed multiple studies of the relationships among effective school properties and student achievement when controlling for socioeconomic status. Hoy found three properties that consistently impact student achievement when controlling for socioeconomic status: academic emphasis, collective efficacy, and faculty trust in clients (Hoy & Hannum, 1997; Hoy, Tarter & Woolfolk Hoy, 2006; Hoy, & Feldman, 1987; Goddard, Tschannen-Moran & Hoy, 2001).

Hoy, Tarter, and Woolfolk Hoy (2006) found academic emphasis, collective efficacy, and faculty trust in client are too interdependent to study separately and concluded the three factors required a latent construct, each dimension being functionally interdependent. Hoy et al. (2006) describes the interactions of the three factors as having reciprocal impact. Collective efficacy is the belief that achievement is possible and fosters a trust in students and parents. Reciprocal trust leads to greater collective efficacy by freeing teachers to experiment with alternative pathways to success. A highly efficacious climate leads to high academic standards and ambitious academic goals, or academic emphasis. When teachers believe they can impact student achievement, the expectations become greater for students to succeed. Ambitious academic goals require trust in parents and students to support the efforts. Academic optimism is present when the three dimensions are working together. Hoy et al. (2006) consider these to be the three factors possible of enabling schools to overcome the impact of poverty on student achievement.

In 2006, researchers termed a new latent school construct, academic optimism, to encompass the interdependence of collective efficacy, faculty trust in clients, and academic emphasis (Hoy, Tarter, & Wollfolk Hoy, 2006). Academic optimism as defined by Hoy, Tarter, and Woolfolk Hoy includes three prongs: cognitive, emotional, and behavioral. The cognitive prong, collective efficacy, is a group belief that the actions of the group will have a positive effect on student outcomes. Faculty trust in students and parents adds an emotional dimension to the construct. Efficacy and trust are acted on through academic emphasis making up the behavioral dimension. Researchers identified 'belief in what is possible' as a theoretical connection linking all three properties into one

force capable of explaining student achievement. Academic optimism highlights the possibility for schools to overcome the power of socioeconomic factors impairing student achievement (Hoy et.al., 2006a).

Hoy and his colleagues included optimism in the construct because academic optimism describes the psychological state of schools having positive impact on student achievement. Success in school can be described as a function of talent and motivation. Seligman and Gillham (2000) offer optimism as a third factor for success. With roots in positive psychology, optimism is considered a cognitive characteristic involving a goal, an expectation, or a causal attribution (Tiger, 1979). Optimistic belief involves a strong emotion about a future occurance. Psychologists describe optimism as both inspiring and motivating (Peterson, 2000). Seligman and Gillham (2000) research supports optimism, talent, and motivation equally contributing factor of academic achievement. Optimism is an individual variable that can be learned (Tiger, 1979). Seligman and Gillham (2000) provide evidence that learned optimism gets people around the barrier of learned pessimism as individuals and within institutions. Schools can be plagued with pessimism and complacency when student achievement and teacher efficacy are low (Bryk & Schneider, 2003). Optimism is capable of trumping pessimism and complacency when intentionally learned by an organization. Hoy and his colleagues (2006) regard optimism as a collective property, similar to collective concepts of efficacy and trust. Collective optimism is a view of teachers as capable, students as willing and able, parents as supportive and reliable, and the learning as achievable. Collective optimism may be a more significant factor in achievement than individual optimism because it encompasses both the social structure and group norms of the school. Norms

of confidence, optimism, and efficacy are powerful motivators of achievement (Forsyth, Adams & Hoy, 2011).

Studies by Hoy and his colleagues find academic optimism is a general latent construct made up of the three dimensions and the construct is a stronger predictor of academic achievement than socioeconomic status (Hoy et al., 2006; Kirby & DiPaola, 2009; McGuigan & Hoy, 2006; Smith & Hoy, 2007; Wagner & DiPaola, 2011). Hoy's largest study (Hoy, Tarter, and Woolfolk Hoy, 2006) involved 96 high schools in the Midwest, both urban and non-urban. The results were consistent with elementary studies finding academic optimism as a strong predictor of academic achievement even when controlling for socioeconomic status. Studies show academic optimism is predictive of academic achievement in 40 elementary schools (McGuigan and Hoy, 2006), math achievement in 99 urban elementary schools (Smith and Hoy, 2007), and reading achievement in 26 urban Alabama elementary schools (Bevel and Mitchell, 2012). A majority of the research on academic optimism has included samples from urban settings with high rates of racial diversity. The initial findings showing academic optimism as capable of mediating the effects of socioeconomics on student achievement are promising. Each component of academic optimism has a rich history of research literature.

Academic emphasis.

Academic emphasis is a key behavioral aspect of the effective schools reform correlates (Bickel, 1983; Hallinger & Murphy, 1986; Sweeney, 1982). Academic emphasis is the extent to which the school is driven by a quest for academic excellence. Schools with strong academic emphasis have an environment described by researchers as

safe, orderly and serious (Edmond, 1979; Hoy, Tarter, & Kottkamp, 1991). Teachers are characterized by a belief all students have the ability to achieve rigorous academic goals. Students are characterized by hard work and respect for those who do well academically (Hoy, Tarter, & Kottkamp, 1991). Academic emphasis is the instrumental aim of an effective school, typically written as a formal goal. Schools with strong academic emphasis have high levels of cooperation; students cooperate with the teacher and with each other. Teachers and students engage in cycles of improvement and show respect for achievement (Hoy, Tarter, & Kottkamp, 1991). Results of hierarchical regression analyses indicate significant links between academic emphasis and student achievement with the greatest achievement effect among low-socioeconomic status schools (Shouse, 1996). Goddard, Sweetland and Hoy (2000) concluded that low- socioeconomic status schools with strong academic emphases are able to positively affect student achievement. The construct of academic emphasis is behavioral, or how schools act. The construct incorporates at least two more of the five school effectiveness characteristics cited by Edmonds (1979b) high student expectations and an orderly and serious work environment are captured in this single school effectiveness variable called academic emphasis (Hoy & Hannum, 1997; McGuigan & Hoy, 2006; Smith & Hoy, 2007). Hoy concludes that a serious and orderly environment and high expectations are components that make the construct academic emphasis complete.

One component of academic emphasis is a climate of high expectations in which the staff believes and demonstrates all students can obtain mastery of the school's essential curriculum. There is a difference between high standards and high expectations. High standards are those externalities students must meet. An expectation is the internal

adult belief in a child's ability to meet the standards. Expectations are crucial (Levine, & Lezotte, 1990). Effective schools research shows a strong connection between focused high expectations and greater student achievement (Astuto & Clarke, 1985; Brookover & Lezotte, 1979; Edmonds, 1979; Saphier & King, 1985; Rutter et al., 1979).

High academic expectations might be an anticipated emphasis of schools, but that is not always the case. Schools not categorized as effective typically had a social focus competing with academic expectations. Non-effective schools were found to promote social relationships that undermined academic expectations with expressed beliefs students should not be pushed too hard. These schools also were more complacent in expectations for students from disadvantaged subgroups and the lacked processes for response to academic failure (Jussim, Eccles, & Madon, 1996).

In effective schools, teachers verbalized the belief that all students were capable of reaching high levels of achievement and family characteristics mattered little to outcomes. Effective schools also had multiple methods of response to academic failure (Brookover & Lezotte, 1979; Edmonds, 1979). High expectations are more predictive of student success than a sense of community and are capable of helping schools overcome poverty's affect on student achievement (Brookover & Lezotte, 1979; Edmonds, 1979a). Shouse (1996) found that strong sense of community may have a negative impact on achievement in low-income schools with weak academic expectations.

Studies and review articles in several countries have shown a strong relationship between high expectations and effective learning (Brookover & Lezotte, 1979; Edmonds, 1979a; 1981; Rutter et al, 1979). High expectations have also been described as a necessary feature of nearly all unusually effective schools described in case studies

(Levine & Lezotte, 1990). Sociology research found links between expectancy of teachers and the achievement of students. Students from disadvantaged subgroups had lowest performance when their abilities were underestimated and the greatest gains when their abilities were overestimated (Jussim, Eccles, & Madon, 1996). These findings also held true for students with previous poor performance and students with low levels of self-confidence. High expectations alone have a weak correlation to academic achievement. This characteristic is operational in a context where there is a strong emphasis on academic achievement, where student progress is frequently monitored, and where there is an orderly environment, conducive to learning. In addition, high expectations are more effective when they are part of a general culture that places achievement demands on everyone in the school (Murphy, Weil, Hallinger, & Mitman, 1982).

Along with high expectations, another component of academic emphasis is the learning environment. The ideal learning environment is orderly, purposeful, business-like, and free from the threat of physical harm. The school climate must be conducive to teaching and learning (Brookover, & Lezotte, 1979). Successful schools are more likely to be calm rather than chaotic places. Fostering self-control among students is a source of a positive spirit in the classroom, and high levels noise and movement are hindrances to student concentration (Sammons, 1995). Effective schools research stresses the importance of maintaining a task-oriented, orderly climate in schools (Brookover & Lezotte, 1979; Edmonds, 1979a-b; Rutter et al, 1979). These studies show an orderly environment is a prerequisite for effective learning to take place, not that schools become more effective as they become more orderly. Hoy's description of the learning

environment includes attributes that are conducive to motivation and hard work where high levels of student and teacher productivity are expected in the classroom (Hoy & Hannum, 1997). Hoy and his colleagues explain the essential learning environment as orderly and serious. Healthy schools are described as taking academics seriously. Scheerens (1992) found correlations between focus on teaching and learning and school effectiveness. This focus is defined by quantifying teachers' and students' use of time, and in terms of school community's concentration on the process of learning and achievement. It is vital for schools and teachers to focus on the quality as well as the quantity of teaching and learning which takes place (Scheerens, 1992). In serious learning environments students are respected and rewarded for their academic achievements (Hoy, Tarter, & Kottcamp, 1991).

High expectations and a serious and orderly work environment are the two components of academic emphasis. The ability of a teacher to hold students to rigorous expectations of productivity and achievement is directly connected to the level of trust the teacher has in student ability and parental support for high expectations (Forsyth, Adams, & Hoy, 2011). The next section reviews literature associated with the second component of academic optimism, faculty trust in clients.

The home-school relationship.

The home school relationship is another generally understood characteristic of an effective school but Brookover and Lezotte's (1979) effective schools research stopped short of digging into the complexity of trust required to impact student achievement. Edmond (1979a) identified home school relationship as a correlate of essential schools. Effective schools provided parents with an opportunity to help achieve the school

mission. The second generation of effective schools research found the definition of parent involvement to be unclear. Levine and Lezotte (1990) updated the definition calling the relationship an authentic partnership between the school and home. The researchers argued teachers attempting to improve the home school relationship were often looking for unqualified support from parents. The definition focused on parents providing support to solve problems with student behaviors and motivation concluding the solution was to build enough trust and enough communication to realize teachers and parents have the same goal (Levine & Lezotte, 1990). The effective schools discussion of the home school relationship is missing the reciprocal nature inherent in discussions of organizational trust from other fields of study. Lezotte and Edmond focused on the importance of getting the parents to trust the school while the nature of trust in other sciences recognizes reciprocity in trusting relationships (Mayer, Davis, & Schoorman 1995; Bhattacharya, Devinney, & Pillutla, 1998; Rousseau et.al. 1998). Forsythe, Adams, and Hoy (2011) highlighted teachers trusting parents as a key difference in their research when compared to previous effective schools research on home school relationships.

Relational trust. The literature on trust lacks consistency and congruence partly due to the nature of the construct. Trust is a complex and multi-faceted construct. The complexity of trust is demonstrated in a definition created by Mayer, Davis, & Schoorman, (1995). The researchers defined trust as the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. Bhattacharya, Devinney, & Pillutla, (1998) developed a

statistical definition of trust as the expectancy of positive or non-negative that one can receive based on the expected actions of another party in an interaction characterized by uncertainty. Rousseau, Sitkin, Burt, and Camerer (1998) construct analysis of trust found a relationship between discipline bias and incongruous assumptions regarding trust. For instance, economists view trust as calculative or institutional while psychologists focus on internal cognition and personal attributes of trustor and trustee. Sociologists find trust in the embedded characteristic of relationships among people and institutions (Rousseau et.al. 1998). Morgan and Hunt (1994) define trust as existing when one party has confidence in the exchange partner's reliability and integrity. The institutional lenses of the researchers lead to a variety of perspectives on trust and trust building.

Consistent with sociology research on trust, studies of trust have more recently emerged in business and marketing (Chaudhuri, & Holbrook, 2001; Sirdeshmukh, Singh, & Sabol, 2002; Geyskens, Steenkamp, Scheer, & Kumar, 1996). Companies recognize the benefits of loyal customers and researchers link loyalty to trust (Chaudhuri, & Holbrook, 2001). Relationship marketing experts define trust as the expectations held by the consumer that the service provider is dependable and can be relied on to deliver on its promises and link trust evaluations to behavioral responses (Sirdeshmukh, Singh, & Sabol, 2002). The researchers found trust influences loyalty by affecting the consumer's perception of value. For customers, perception of value was more complex than competitive price. Specifically, trust created value perception by providing relational benefits derived from interacting with a service provider that is competent, benevolent toward the consumer, and committed to solving problems, and by reducing exchange uncertainty and helping the consumer form consistent expectations of the service

provider (Sirdeshmukh, Singh, & Sabol, 2002). Berry (1995) concluded the inherent nature of services, coupled with abundant mistrust in America, positions trust as possibly the single most powerful relationship marketing tool available to a company.

The benefits of trust in a school are not unlike the benefits found in business and relational marketing. The complexity of the organization adds to the complexity of a trusting relationship. The conceptual framework of relational trust as an organizational property was derived from Coleman's (1985) work on social capital. He conceptualized social capital as having two critical components, network closure and the trustworthiness of agents. Relational trust derives from repeated interactions over time and involves emotional attachments that develop among agents based on reciprocated care and concern. Experiences from previous exchanges give rise to expectation for future exchanges. Each concurrent positive exchange increases the party's willingness to bring resources into the exchange until parties develop a relationship of mutual loyalty and broad respect. Repeated interaction over time can lead to a psychological identity, or team mentality among the parties. Coleman (1985) referred to this as identity-based trust. In a complex organization, like a school, where parties are organized into groups or role, the exchanges happen on an individual and group level.

Forsythe, Adams, and Hoy, (2011) refer to relational trust at the group level as collective trust. These social exchanges initiate social construction of a group belief about and perception of the trustworthiness of the other group. The social construction parallels the formation of relational trust, but occurs at the group level. This social process includes the sharing within the group of individual expectations for appropriate behavior by members of another group expressed in terms of openness, honesty,

benevolence, reliability, and competence and comparisons to observed behavior of members of another group, resulting in an emergent consensus about the trustworthiness of another group. The authors argue collective trust is not just an average score on a trust scale for a group, but rather an independent concept with distinctive outcomes for school improvement. Trust can be seen as making one vulnerable to another party or group based on the confidence that the other will act with benevolence, reliability, honesty, openness, and competence. Collective trust is a stable group property rooted in the shared perceptions and affect about the trustworthiness of another group or individual that emerges over time out of multiple social exchanges within the group. These socially constructed shared trust beliefs define the group's willingness to be vulnerable to another group or individual (Forsythe, Adams, & Hoy, 2011).

There are distinct role relationships inherent in schools: teachers with students, teachers with other teachers, teachers with parents, and all groups with the school leader. Each party in a relationship maintains an understanding of his or her obligations and holds expectations about the obligations of other. High functioning teams achieve agreement on personal obligations and clearly communicate expectations of others. The reciprocal nature of the relationship keeps all participants dependent on others to achieve the school mission (Bryk & Schneider, 2003). To achieve strong trust, the overall environment in schools must be one of trust where integrity, openness, consistency, and fairness are evident (Newcombe, & McCormick, 2001).

Bryk and Schneider (2003) conducted a decade of intensive qualitative research and statistical analyses from more than 400 Chicago elementary schools and found openness to improvement, trust and respect, teachers' knowledge and skills, supportive

leadership, and socialization to be more critical to professional learning communities than structural conditions. Although not the focus of their research, Bryk and Schneider (2003) found strong indication of the relationship between levels of teacher trust and teacher behaviors associated with positive school outcomes. The researchers observed patterns in individual members of role groups engaged in multiple interactions around the work of school while discerning intentions embedded in the actions of others. These interactions are often public or social interactions witnessed by other members of the role group as well as members of other role groups. Parties consider how others' actions benefited their own interests or affected their own self-esteem. Parties monitored the behaviors of others and assessed for alignment with the norms of the group and values of the organization. Group members shared accounts of experiences and interactions with other group members. Each assessment took into account information from prior experiences (Bryk and Schneider, 2003).

Over time, groups develop generalized descriptions of other groups in in terms of openness, honesty, benevolence, reliability, and competence. In the absence of prior interaction, individuals relied on general reputation, perceptions of other trusted members of the organization, and also on commonalities of race, gender, age, religion, or upbringing. A group perception served as a driver for future expectations in future interactions. Groups continually monitored the motives of other groups and classify motives as respect, personal regard, competence in core role responsibilities, and personal integrity (Bryk and Schneider, 2003). Although Bryk and Schneider (2003) focused their study on the qualities of relational trust, the descriptions in their case study descriptions can be aligned with Hoy's qualities of collective trust.

Further investigation into the outcomes of collective trust reveals a relationship between levels of trust and prevalence of high impact teacher behaviors; for example, collaborative problem solving, expressions of work satisfaction, risk-taking and innovation, willingness to take on challenge (da Costa & Riordan, 1996). Collective trust among teachers leads to a willingness to experiment with innovative techniques in the classroom. Levels of trust in an organization can determine how effectively members solve problems. In a study of managerial structure, Zand (1971) found interpersonal relationships in low trust groups distorted the group's perception of the problem and energy and creativity were diverted from finding comprehensive, realistic solutions. Low trust group members used the problem to minimize their vulnerability in the situation. Low trust groups took fewer risks and accepted problems as the standard more frequently than high trust groups. High trust groups experienced less socially generated uncertainty and problems were confronted with an urgency to find solutions. High trust groups solved problems creatively and efficiently (Zand, 1971). Bryk and Schneider (2003) found schools with high levels of trust participated in more effective collective decision-making and new initiatives spread quicker across the organization, teachers were more willing to take on tough challenges to meet student needs, and teachers reported much higher levels of job satisfaction when collective trust was present in the school. Along with observed high yield teacher behaviors, measures of school trust, on survey items addressing teachers' attitudes toward their colleagues, principals, and parents, proved a powerful discriminator between improving and non-improving schools (Bryk & Schneider, 2003).

Trust in school groups is often discussed in terms of faculty, administration, and parent trust, but trust relationships between teachers and students also benefit school outcomes. Trust enables students to take academic risks and try out new skills, both of which are essential for learning (Tschannen-Moran, 2014). Reciprocal trust within the classroom decreases perceptions of vulnerability and increases willingness to take risks by both teachers and students (Tschannen-Moran, 2014). According to Hoy et.al. (2001), teacher trust in parents and students is a collective school property and also a unitary concept where trust in students cannot be separated from trust in parents. (Tschannen-Moran & Hoy, 1998; Goddard, Tschannen-Moran, and Hoy, 2001). Further, Bryk and Schneider (2003) make the theoretical argument that teacher-student trust in elementary schools operates primarily through teacher-parent trust. Common and clearly communicated goals and expectations are the foundation of reciprocal group trust. When students, teachers, and parents have common learning goals, then trust and cooperation are likely ingredients that improve teaching and learning (Adams & Forsyth, 2007).

Trust in schools can lead to positive school outcomes and has been linked to models of school effectiveness as well as high yield teacher behaviors (Bryk & Schneider, 2003; Hoy & Tschannen-Moran 2007; Newcombe, & McCormick, 2001). High levels of trust also have specific positive impacts on student achievement outcomes (Tschannen-Moran & Hoy, 1998; Goddard, Tschannen-Moran, Hoy, 2001; Hoy & Tschannen-Moran 2007). The schools with high levels of collective trust in the Bryk and Schneider study (2003) showed significant improvement in achievement scores while achievement scores in schools with low levels of collective trust were stagnant.

Faculty trust in clients. Although early effective schools research showed relational trust is an important aspect of good schools, the link between collective trust and student achievement was not clear. As a part of their school quality research, Hoy and his colleagues attempted to link collective trust with students achievement. When socioeconomic status was added to the regression analysis, only socioeconomic status was significantly associated with student achievement (Hoy, Tarter, & KottKamp, 1991). However, in later research, Goddard, Tschannen-Moran, and Hoy (2001) connect collective faculty trust in students and parents with student achievement, even after controlling for socioeconomic status. The power of collective trust in students and parents, a school controlled factor, to overcome the impact of family wealth was found to be a significant positive predictor of student achievement by Goddard, Salloum, & Berebitsky (2006) who concluded that collective trust in clients mediated the relationship between school disadvantage and achievement. Forsyth, Adams, and Hoy (2011) proposed two explanations for the indirect function of collective trust in clients on student achievement. First, the relationship between trust and cooperation, trust is required for cooperation to be possible, and cooperation between parent, student, and teacher sets the stage for effective learning. Second, the researchers proposed that strong faculty trust in clients led to high levels of collective efficacy. High levels of collective efficacy led to higher goals, harder work, and more persistence (Forsyth, Adams, & Hoy, 2011). Collective efficacy is the third component of academic optimism.

Teacher efficacy.

Self-efficacy, with roots in positive psychology, is the extent to which individuals believe they can organize and execute actions to bring about a desired outcome (Bandura,

1982). A group of researchers from the RAND Corporation included two questions in an extensive teacher survey focused on the attribute of teacher efficacy, "1) When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment, 2) If I try really hard, I can get through to even the most difficult or unmotivated students" (Armor et al., 1976, pg. 23). These two questions sparked three decades of research on teacher efficacy. Researchers have differing views on the definition of teacher efficacy partly due to the theoretical origins of teacher efficacy research. Ashton (1984) identified two dimensions of teacher efficacy: the general belief that students can learn the material and the personal belief in the ability to make learning happen. Guskey and Passaro defined teacher efficacy as "teachers' belief or conviction that they can influence how well students learn, even those who may be difficult or unmotivated" (1994, pg. 4). Tshannen-Moran and Woolfolk Hoy (2001) define teacher efficacy as teachers' perceptions of their resources and strategies for bringing about student behavioral and instructional outcomes.

Teacher efficacy research is based on two social psychology theories. Rotter's (1966) social learning theory and Bandura's (1986) social cognitive theory. Rotter's social learning theory includes locus of control. Locus of control is defined as a belief about whether we are in control of the outcomes in life or if the outcomes are controlled by external factors. One section of teacher efficacy research uses Rotter's work as a theoretical framework (Guskey, 1984; Ashton & Webb 1986; Smylie, 1988).

Another section of teacher efficacy research emerged around the same time based on Bandura's (1986) social cognitive theory and his construct of self-efficacy (Tschannen-Moran and Woolfolk Hoy, 2001; Gibson and Dembo, 1994; Allinder, 1994).

Bandura (1982) explained perceived self-efficacy as a person's belief in her capability of organizing and executing the steps necessary to reach a goal. Bandura's (1982) description of self-efficacy involves a future-orientated belief about the level of competence a person expects to display in a situation. Research based on Rotter's theory showed locus of control was a weak predictor of behavior while research based on Bandura's theory showed self-efficacy was a strong predictor of behavior.

Bandura suggested four sources of information are used to build self-efficacy when the information is purposely reflected on through self-referent thought. The most influential form of information comes from mastery experiences (Bandura, 1997). Mastery experiences refer to the number of times a task is performed with success. Confidence in future success is created each time a mastery experience takes place. Information used to build efficacy also comes from the level of emotional arousal attached to a performance experience. The more nervous or excited a teacher feels while executing a task is related to amount of built efficacy because emotion is related to the amount of value vested in the activity. Vicarious experiences can also affect efficacy. Watching a model performance of an activity allows the viewer to reflect on personal confidence in recreating the performance. For instance, teachers watching a video demonstration of a teaching method may feel more confident in their ability to execute the method successfully. Efficacy is also built through social persuasion, or feedback, such as positive responses from peers or administrator evaluation.

In response to comparisons of the two originating theories, Bandura (1997) argued that locus of control and self-efficacy had little or no empirical relationship. Bandura explained a person can believe an outcome is within his or her control and also

believe he lacks the competence to achieve the outcome. Self-efficacy is also different from other popular concepts of self, for instance, self-esteem, because it is specific to a particular task. For instance, a person may feel inefficacious for archery while continuing to have high self-esteem. Self-efficacy has to do with self-perception of competence in a given situation. These perceptions impact levels of expended effort in a situation, persistence through difficulties, resilience in dealing with failures, and levels of stress in demanding situations (Bandura, 1997).

Conflicting origins have not stifled the popularity of teacher efficacy in education reform. Teacher efficacy as a reform focus is fueled by promising trends found in teacher efficacy research from both originating theories. Teacher efficacy is believed to influence student achievement and motivation through teacher behaviors (Bandura 1997) and has been shown to affect teachers' satisfaction and stress levels (Tschannen-Moran & Woolfolk Hoy 2001). Gibson and Dembo (1984) found relationships between levels of teacher efficacy and amount of effort expended on lesson preparation and execution. Researchers also found difference in the amount of criticism teachers expressed to students with wrong answers. Teacher efficacy is linked to teachers' willingness to innovate, use a variety of materials and strategies, and persist when facing challenging obstacles (Allinder 1994). Teachers with high levels of efficacy show greater levels of enthusiasm and have students with high levels of self-efficacy and motivation (Tschannen-Moran & Woolfolk Hoy 2001).

The two sections of research originating from differing theories of social learning have caused confusion about teacher efficacy and debate regarding effective ways to measure the construct (Gibson & Dembo, 1984; Guskey, 1987; Guskey & Passaro, 1994;

Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998). However, many education researchers rely more heavily on Bandura's original self-efficacy work as the model for developing research topics and instruments (Tschannen-Moran & Woolfolk Hoy, 2001). Repeated studies find a weak relationship between teacher efficacy development and perceived levels of internal and external control rendering Rotter's theory less influential in subsequent efficacy measures (Skaalvik & Skaalvik, 2007). Tschannen-Moran, Woolfolk Hoy and Hoy (1998) developed an assimilated measure of teacher-efficacy assuming the same sources of efficacy development as Bandura's original theory. In an effort to clarify teacher efficacy as a multidimensional construct, Tschannen-Moran and Woolfolk Hoy (2001) developed a teacher efficacy model including two additional factors of teacher efficacy. Teacher levels of perceived efficacy fluctuate based on circumstances. Efficacy judgments are made based on task and context as well as perceived level of teaching competence. The interaction of these two factors, context and competence, informs perceptions about self-efficacy for specific teaching tasks. Tschannen-Moran and Woolfolk Hoy (2001) proposed three dimensions of efficacy: efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. In Norway, Skaalvik and Skaalvik (2007) developed a scale to measure teacher efficacy extending the dimensions proposed by Tschannen-Moran and Woolfolk Hoy (2001) to include six dimensions through which teachers judge self-efficacy: instruction, adapting education to individual students' needs, motivating students, keeping discipline, cooperating with colleagues and parents, and coping with changes and challenges.

Both sets of researchers developed reliable and valid measurement tools for teacher efficacy helping to provide clarity to factors involved in developing efficacy as well as the related outcomes of efficacy. Researchers have subsequently found strong relationships between student outcomes and collective efficacy with collective efficacy being a stronger predictor of student outcomes than individual teacher efficacy (Tschannen-Moran & Woolfolk Hoy, 2001; Skaalvik & Skaalvik, 2007).

Collective efficacy. Bandura (1997) defines collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 477). Collective efficacy is more than the aggregate of teacher's self-efficacy beliefs; it is a related but separate parallel construct believed to be more powerful than socioeconomic factors in predicting student achievement (Bandura, 1997; Goddard, Sweetland, & Hoy, 2000). The relationship between collective efficacy and teacher efficacy is reciprocal (Bandura, 1997). Highly efficacious teachers create a highly efficacious environment and a highly efficacious environment can increase the self-efficacy of teachers (Goddard et al., 2000). Collective efficacy is a way of conceptualizing the normative environment of a school and its influence on personal and organizational behavior. Perception about the school's ability to educate students establishes a norm influencing the actions and achievements of schools (Goddard et al., 2000).

In 1993, Bandura found collective efficacy is significantly and positively related to student achievement and collective efficacy has a greater effect on student achievement than socioeconomics of the school. Goddard, Hoy and Hoy, (2001) came to the same conclusion finding collective efficacy is a significant predictor of student

achievement and that negative association between SES and achievement is more than offset by the positive association between collective teacher efficacy and student achievement.

Goddard, Sweetland, & Hoy (2000) suggested that the positive relationship between collective efficacy and student achievement was due to the environmental impact on teacher beliefs and behaviors. In a school with a high level of collective efficacy, teachers are more likely to act purposefully to improve student learning (Goddard et al., 2000). Bandura's (1997) theory of triadic reciprocal causation indicates behaviors change an environment and the environment influences behaviors. Actions and reactions are reciprocal and multidimensional. Collective efficacy beliefs influence the level of effort and persistence that individual teachers put forth in their daily work and in turn the level of effort and persistence of individuals influence the perceived efficacy of the school (Goddard, Hoy & Woolfolk Hoy, 2004). Group norms can be used to explain how collective efficacy influences individual behaviors. Coleman (1987) describes norms as social capital that develop to provide group members some control over the actions of other group members when behaviors have consequences for the group. When a teacher's behavior is not congruent with the beliefs, or norms, of the group, the group sanctions the actions (Coleman, 1987). A highly efficacious environment delivers social sanctions to those who do not perform to expectation. If most teachers in a school believe the faculty can be successful with all students, the normative environment will press teachers to persist with difficult students. From a Bandura's (1997) perspective, teacher self-efficacy is influenced by social persuasion. Group perceptions of collective efficacy serve to influence the behavior of individuals and the normative environment of

schools by providing expectancies about the probability of success for reaching goals (Bandura 1997).

Summary

Poverty is a complex construct with multiple factors that can impact the academic achievement of children. Children from low-income families are considered to be educationally disadvantaged. The original purpose of federal education policy was to provide funding to improve the education of children from poverty and close the achievement gap between students from low-income families and their peers. Since 2002, federal education policy has increased school accountability measures and tightened the focus on school improvement efforts in an attempt to meet the original policy goal of achievement for all students, particularly students considered disadvantaged.

Schools are eager to find replicable school level practices that improve achievement for students from low-income families. Recent research indicates academic optimism has the potential to improve achievement beyond the effects of socioeconomic factors. Academic optimism is a general latent construct comprised of academic emphasis, faculty trust in clients, and collective efficacy. With roots in positive psychology, academic optimism refers to the climate created by a collective belief in what is possible for schools and student achievement. This study extended the research base of academic optimism to include Missouri rural schools in an effort to develop a better understanding of the construct and the construct's impact on student achievement beyond the effects of socioeconomic factors. Chapter three describes the methods used in

this study. Chapter four presents the findings of the study. Chapter five reveals the implications of the study results.

CHAPTER THREE

METHODOLOGY

This research explored the difference in achievement of students in schools with high academic optimism versus schools with low academic optimism beyond the effects of socioeconomics. The researcher used survey data collected from elementary teachers in Missouri rural schools to determine school levels of academic optimism. The survey used in this study is an existing instrument designed to measure the level of academic optimism in a school (see Appendix B). The instrument used to measure student achievement in fourth grade English language arts is the annual Missouri assessment. The results were disaggregated by the level of academic optimism and then by socioeconomic status of schools determined by percentage of students qualifying for the federal subsidized school meal program.

Research Questions

Prior studies have found that academic optimism was predictive of a composite of reading, social studies, and writing achievement in 96 high schools (Hoy, Tarter, & Woolfolk Hoy, 2006), predictive of mathematics and reading achievement in 40 elementary schools with low poverty levels (McGuigan and Hoy, 2006), predictive of mathematics achievement in 99 urban elementary schools (Smith and Hoy, 2007), and predictive of reading achievement in 29 urban elementary schools in Alabama (Bevel & Mitchell, 2012) above and beyond the effects of socioeconomic status. The researcher reasoned that a similar relationship between academic optimism and English language arts achievement could be found in the elementary schools in this sample of rural Missouri schools. The following questions guided this study:

1. What is the difference in achievement of students in Missouri rural schools reporting a high standardized academic optimism score versus Missouri rural schools reporting a low standardized academic optimism score?
2. What is the impact of poverty level combined with academic optimism on student performance in Missouri rural schools?

Participants

The sample was chosen based on designation as a rural school by the Missouri Department of Elementary and Secondary Education (DESE), accessibility, and willingness for survey completion. Teachers from rural elementary schools containing fourth grade classrooms in the State of Missouri were included in this study. The survey was sent all rural Missouri public elementary schools with fourth grade classrooms serving a mixed population of students. Schools serving a limited population of students were excluded from the sample. Schools serving only special education students, juvenile justice schools, and schools serving only gifted students were excluded from the sample. Achievement data was evaluated for fourth grade English language arts so it was necessary that participants work in a building with fourth grade classrooms. Missouri has 518 public school districts with 1,232 elementary school buildings. The survey was sent to the 410 elementary schools meeting the study criteria.

Rural designation by DESE applies to 46 percent of the districts in Missouri. Rural designation is based on the National Center for Education Statistics Locale Codes seven and eight. Locale Code seven refers to any incorporated place, Census designated place, or non-place territory not within a core based statistical area (CBSA) or combined

statistical area (CSA) of a Large or Mid-size City and defined as rural by the Census Bureau (National Center for Education Statistics, 2003). Locale Code eight refers to any incorporated place, Census designated place, or non-place territory within a CBSA or CSA of a Large or Mid-Size City and defined as rural by the Census Bureau (National Center for Education Statistics, 2003). A list of contact information for building principals in schools designated by DESE as Locale Code seven or eight was obtained from the Department of Elementary and Secondary Education (DESE). The obtained list also contained demographic information about the school including total number of students, starting grade level, ending grade level, free and reduced lunch percentage, number of certified staff, physical address, and telephone number.

Research Design and Procedures

In accordance with the guidelines of Southwest Baptist University regarding the protection of human participants, a request for review was submitted to the Research Review Board for approval to conduct this study. There was no risk to participants in this study. The participants gave informed consent (see Appendix B) and were not personally identified as a part of this study. Likewise, individual districts were not identified in this study. After receiving Research Review Board approval, data was collected.

In this quantitative study, the researcher used a survey developed by researchers at the University of Ohio (see Appendix B). Permission to use the School Academic Optimism Scale was obtained directly from Hoy, lead developer of the measure (see Appendix A). The survey and all survey data was housed on Qualtrics web-based survey software. Data remained password protected until the completion of the research process then was permanently deleted from the online software. The survey link was distributed

through electronic mail to principals at 410 rural elementary schools. Principals were asked to email the survey link to the certified staff at each school. The survey included informed consent and identification of Regional Professional Development Center with which the school is affiliated. School responses included a random unique school identifier six-digit code created by the researcher for the purpose of aggregating responses by individual school. All data was reported using the unique school identifier to protect the anonymity of all participants.

Survey responses were collected during a four-week response window. Schools with response rates lower than 20 percent of certified staff received a reminder email one week prior to the response deadline. The researcher also contacted 14 schools by phone.

Survey data was obtained from survey participants using Qualtrics survey software. School socioeconomic status and fourth grade English language arts achievement scores were obtained from the Missouri Department of Elementary and Secondary Education. All identifying data housed on-line was deleted upon completion of this research.

Treatment of Data

As a first step in the analysis, surveys were scored to obtain the school level of academic optimism. The researcher used the scoring process designed by the survey developers (see Appendix C). Reverse scores were computed for two of the three subscales as indicated by the survey developers. Next, the average individual response score was computed for each of the three subscales. The average individual response scores were then averaged for all teachers from the school to obtain an average subscale response score for the school for each of the three subscales. Average subscale scores for

the school were then standardized using the formula provided by the survey developers (see Appendix C). The average subscale scores were used to determine the school level of academic optimism.

All data for statistical analysis was imported into Statistics Package for Social Sciences (SPSS) software package. In the next analysis step, descriptive data for each variable was computed and analyzed. Descriptive statistics were analyzed for academic optimism, fourth grade English language arts achievement, and school socioeconomic status.

The data was then analyzed in an attempt to answer each of the research questions of this study. The alpha number for this study was set at the educational research standard of .05. To answer if there is a difference in achievement of students in schools with high academic optimism versus schools with low academic optimism in Missouri rural schools, the researcher conducted a *t*-test to compare achievement of students in schools with high academic optimism with achievement of students in schools with low academic optimism. Academic optimism level was determined by the survey originators' interpretation suggestion (see Appendix C). Potential school academic optimism standardized scores range from zero to 1000. Five hundred is the mean score for a typical school and 650 is considered very high as determined by survey developers (Hoy, Tarter, Woolfolk Hoy, 2006). In this study, scores below 650 were considered low academic optimism and scores at or above 650 were considered high academic optimism. The researcher chose the cut score of 650 to separate high academic optimism levels from low academic optimism levels based on the mean and standard deviation of survey

responses. The same cut score, 650, was used to analyze school levels of each of the three subscales; collective efficacy, faculty trust in clients, and academic emphasis.

In the final step of data analysis, the researcher used a two-way ANOVA test to analyze the impact of poverty level when combined with academic optimism on student performance in Missouri rural schools. High poverty was determined by the 10 percent of participant schools with the highest poverty based on federal program free and reduced lunch percentages. The average poverty level of the highest 10 percent of schools was 100 percent, and was used as the cut score for poverty level. The variables were analyzed using an ANOVA to see if there was a significant difference in achievement of students in schools reporting high academic optimism, at or above 650, versus schools reporting low academic optimism, below 650, when school poverty level was considered. The same variance analysis was also applied to demographic data, state region and locale code, in an effort to investigate multiple angles.

Instrumentation

Variables in this quantitative research included school level poverty, school English language arts achievement, and academic optimism. Data for school level poverty and school English language arts achievement was obtained from the Missouri Department of Elementary and Secondary Education (DESE). School level poverty was determined by the school percentage of student qualifying for federal school meal program referred to as free and reduced lunch. School level English language arts achievement was measured using fourth grade English language arts achievement scores from the 2014-2015 Missouri annual state assessment (MAP). The Missouri Department of Elementary and Secondary Education reports individual student scores on four levels;

below basic, basic, proficient, and advanced. School level scores are reported publicly by grade level and subject area as percentage of students scoring in the top two levels of achievement, proficient and advanced. School level academic optimism standardized scores were determined using the School Academic Optimism Survey (SAOS) developed by researchers from Ohio State University (see Appendix B).

The SAOS is an index designed to measure a school's level of academic optimism through teacher perceptions using Likert-type items organized into three subscales. Each subscale is intended to measures the school level of one of the three interdependent components of academic optimism (Hoy, Tarter, Woolfolk Hoy, 2006). The subscales assess teacher perceptions of school level collective efficacy, faculty trust in clients, and academic emphasis. Scores from three subscales are combined to determine school's level of academic optimism.

In previous research, intraclass correlation coefficients show a grouping effect for each of the three subscales. Hoy, Tarter, and Woolfolk Hoy (2006) analyzed data for each subscale using a fully conditional analysis of variance found intraclass correlation coefficients were .23 for collective efficacy, .21 for faculty trust in clients, and .24 for academic emphasis. The results were sufficiently strong to suggest a relatively high grouping effect. The researchers concluded the aggregated measures of the three subscales were collective properties and not averages of individual measures (Hoy, Tarter, & Woolfolk Hoy, 2006). McGuigan & Hoy (2006) conducted a principle axis factor analysis of the three variables and found academic optimism to be a strong latent construct consistent with Hoy, Tarter & Woolfolk Hoy (2006). The factor loadings for the construct variables were .95 and above on the academic optimism variable. The

following sections will describe the three subscales that make up the School Academic Optimism Scale.

Collective efficacy subscale.

Perceived collective efficacy of a school is belief that the faculty as a whole can organize and execute actions required to influence student achievement (Goddard, Hoy, & Woolfolk Hoy 2000, 2004). The subscale is measured using the short version of the 12-item collective efficacy scale (Goddard, Hoy, & Woolfolk Hoy, 2000). The Collective Teacher Efficacy Scale is a 12 item, six-point Likert type scale; with a response range from strongly disagree to strongly agree. Sample items on this scale include, "teachers in this school are able to get through to the most difficult students," "teachers in this school believe that every child can learn," and a reverse scored item, "if a child doesn't want to learn teachers here give up." The reliability of this subscale was supported in previous research by an alpha coefficient of .91 (Hoy, Tarter, & Woolfolk Hoy, 2006) and by an alpha coeffiecient of .94 (McGuigan & Hoy, 2006). The efficacy subscale proved to be reliable and valid in two independent samples (Goddard, Hoy, & Woolfolk Hoy, 2000). Goddard, Hoy and Woolfolk Hoy(2000) examined criterion related validity for the subscale and found the subscale correlated as predicted with criterion variable data. The criterion variables examined were personal teaching efficacy, faculty trust in colleagues, and environmental press. The researchers also found internal reliability with an alpha coefficient of .96.

Faculty trust in clients subscale.

Faculty trust in clients is measured by the Omnibus Trust Scale (Hoy & Tschannen-Moran, 2007). The subscale consists of 10 items scored on a 6-point Likert

scale from strongly disagree (1) to strongly agree (6). Sample items of the scale include, "Teachers in this school can trust their students," "Parents in this school are reliable in their commitment," "Students in this school can be counted on to do their work," and "Teachers can count on parental support." The reliability of this subscale was supported in previous research with an alpha coefficient of .94 (Hoy, Tarter, Woolfolk Hoy, 2006) and with an alpha coefficient of .96 (McGuigan & Hoy, 2006). The reliability and construct validity of the scale have been supported by factor-analytic study (Hoy & Tschannen-Moran, 2003). The alpha coefficient for the scale was .95 and analysis of relationships among variables were consistent with theoretical predictions (Hoy & Tschannen-Moran, 2003).

Academic emphasis subscale.

The academic emphasis subscale of the Organizational Health Inventory (Hoy & Miskel, 2013; Hoy, Tarter, & Kottkamp, 1991; Hoy, & Feldman, 1987; Hoy, & Hannum, 1997) is used to determine academic emphasis of the school. The measure is comprised of eight Likert items scored on a 4-point scale from rarely occurs (1) to very frequently occurs (4). Subscale sample items include, "the school sets high standards for performance," "students try hard to improve on previous work," and "teachers in this school believe that their students have the ability to achieve academically." The reliability of this subscale was supported with an alpha coeffiecient of .83 (Hoy, Tarter, Woolfolk Hoy, 2006) and with an alpha coefficient of .94 (McGuigan & Hoy, 2006). The construct validity of the measure was supported in previous research (Hoy & Tarter, 1997). Hoy and Tarter (1997) constructed seven hypothetical dimensions of organizational health including academic emphasis. Factor analysis of the dimensions

showed relationships among the variables held up consistently as theoretically expected supporting construct validity of the academic emphasis subscale.

Summary

This quantitative study explored the difference in achievement of students in Missouri rural schools with differing levels of academic optimism and the impact of school poverty level combined with academic optimism on achievement of students. Teacher perceptions of collective academic optimism were collected using an already established survey. The results were analyzed at the school level using statistical treatments to determine the statistical significance of differences in English language arts achievement of fourth grade students in Missouri rural elementary schools when poverty and academic optimism are considered. Chapter four reviews the results of the statistical analysis of data and chapter five reveals the implications of the study results.

CHAPTER FOUR

ALAYSIS OF DATA

This study examined the differences in fourth grade English language arts achievement based on school levels of academic optimism in Missouri rural schools. Academic optimism is a general latent construct composed of collective efficacy, faculty trust in clients, and academic emphasis. Academic optimism, the three components of academic optimism, and school level poverty were the independent variables of this study. Fourth grade English language arts achievement was the dependent variable and the sample was made up of Missouri rural elementary schools. This chapter reports the results of the data analysis. The chapter begins with descriptive statistics for each variable used in this study. The researchers then report the inferential statistics used to answer the research questions for this study. Initially, a *t*-test was used to determine the difference in fourth grade English language arts achievement of students in Missouri rural schools reporting a high standardized academic optimism score (at or above 650) versus Missouri rural schools reporting low standardized academic optimism scores (below 650). The survey authors, Hoy, Tarter, and Woolfolk Hoy, standardized the school AO scores such that the mean for a typical school is 500. Hoy, Tarter, and Woolfolk Hoy (2006) indicate a score of 650 on academic optimism represents a very high score and a score of 350 depicts a very pessimistic view on academic optimism. The cut score was determined by considering the mean academic optimism score for the sample and the originating authors' explanation of very high academic optimism. A *t*-test was used to analyze each of the three subscales of the School Academic Optimism Scale to determine if there was a difference in student achievement for schools with a high score on a

subscale versus schools with a low score on the subscale. Finally, a multi-factor variance analysis was used to determine the impact of poverty level combined with academic optimism on student performance in Missouri rural schools.

Descriptive Statistics

The study sample included 50 Missouri rural elementary schools with 412 individual responses. The sample represents a return rate of 12 percent of the 410 schools originally meeting the study criteria of Missouri rural school with fourth grade students. Although the sample represents a small percentage of the population, the sample is a close representation of the larger group. The sample is representative of the whole population based on two variables central to this study; fourth grade English language arts achievement and school poverty level. The mean and standard deviation for poverty level of all 410 rural Missouri elementary schools (M = 61.19, SD = 18.02) are similar to poverty level mean and standard deviation of the 50 schools in the sample group (M = 62.93, SD = 17.70). Student achievement was also similar between the whole rule school population (M = 56.51, SD = 15.73) and the study sample (M = 58.79, SD = 11.56). The cut score used for poverty was based on the mean poverty level of the top 10 percent of schools in the sample (M = 100) and is consistent with the poverty level of the top 10 percent of the total population ($M = 99$). The similarities between the 50 schools in the study sample and the 410 rural Missouri elementary schools with fourth grade classrooms lead the researcher to reason the sample was representative of the whole population of Missouri rural elementary schools and the results of the study were valid.

Survey responses for the 50 sample schools were aggregated to the school level

according to a unique identification code provided to the school by the researcher. Aggregating responses to the school level models the original research design for school level academic optimism (Hoy, Tarter, Woolfolk Hoy, 2006). The survey instrument measured the respondent's perception generalized to the behaviors typical for the school as a whole. A total of 577 responses were completed during the collection period from 97 schools. The researcher used the number of certified staff attained from the Missouri Department of Elementary and Secondary Education (DESE) to determine return rates at the school level. The researcher determined responses from, at minimum, 20 percent of certified staff was a reasonable response rate for aggregating scores to the school level. Response rates lower than 20 percent might only include one or two teacher perceptions and may not yield an accurate representation of the school level of academic optimism. Survey responses from schools with a return rate of less than 20 percent were not included in the study results. Forty-seven schools including 156 survey responses were excluded from the study based on the qualifying return rate.

The sample represented schools from eight of the nine regions in the state of Missouri. Regions were determined using the Missouri Regional Professional Development Center (RPDC) identified service areas. Missouri is divided into nine service areas and regions are identified numerically. The number of schools from each identified service areas represented in the study are as follows: Southeast RPDC (Region 1, $n = 2$), The Hook Center (Region 2, $n = 7$), Kansas City RPDC (Region 3, $n = 3$), Northeast RPDC (Region 4, $n = 4$), Northwest RPDC (Region 5, $n = 4$), South Central RPDC (Region 6, $n = 10$), Southwest RPDC (Region 7, $n = 11$), St. Louis RPDC (Region 8, $n = 0$), and Central RPDC (Region 9, $n = 9$). The only region not represented

was St. Louis, region 8, which includes St. Louis County, St. Charles County, and Jefferson County.

The sample included schools designated as rural by DESE using Census based locale codes. Rural designation is based on the National Center for Education Statistics Metro-Centric Locale Codes seven and eight. Locale Code seven refers to any incorporated place, Census designated place, or non-place territory not within a core based statistical area (CBSA) or combined statistical area (CSA) of a Large or Mid-size City and defined as rural by the Census Bureau (National Center for Education Statistics, 2003). Locale Code eight refers to any incorporated place, Census designated place, or non-place territory within a CBSA or CSA of a Large or Mid-Size City and defined as rural by the Census Bureau (National Center for Education Statistics, 2003). The sample included 31 schools from locale code 7 and 19 schools from locale code 8.

School Academic Optimism Scale (SAOS) scores were aggregated at the school level using formulas provided by authors of the survey (see Appendix C). Standardized school scores were computed for academic optimism (AO) and each of the three subscales; collective efficacy (CE), faculty trust in clients (TR), and academic emphasis (AE). Standardized scores have a potential range of zero to 1000. The descriptive statistics presented in Table 1 show range, minimum, maximum, mean, and standard deviation for SAOS responses.

Table 1

Descriptive Statistics for School Academic Optimism Scale

Variable	Range	Min	Max	*M* (*SD*)
Academic Optimism	414.43	457.70	872.13	634.89 (88.51)
Collective Efficacy	427.23	453.58	880.81	635.49 (97.85)
Faculty Trust	450.32	448.72	899.04	659.33 (91.63)
Academic Emphasis	480.76	403.85	884.62	609.85 (105.12)

The survey authors, Hoy, Tarter, and Woolfolk Hoy, standardized the school AO scores such that the mean for a typical school is 500. Hoy, Tarter, and Woolfolk Hoy (2006) indicate a score of 650 on academic optimism represents a very high score and a score of 350 depicts a very pessimistic view on academic optimism. The range and interpretation of standardized scores is based upon the normal distribution. In this study sample, the mean standardized scores in each of the three subscales and the mean standardized score for school level academic optimism show a skew toward high levels of academic optimism and high levels of each of the three components making up academic optimism. When compared to the mean scores standardized by the survey authors, the mean for each variable in this study sample falls at least one standard deviation above the normal distribution. Sample schools report higher levels of academic optimism and the sub components of academic optimism than 84 percent of schools in the typical school set. Although the range of scores is broad, 414.43 for AO to 480.76 for AE, no schools reported scores lower than one standard deviation from the norm. These descriptive statistics indicate participants consistently report high levels of collective efficacy, trust in clients, and academic emphasis leading to high levels of reported

academic optimism.

The descriptive statistics presented in Table 2 show results for two additional variables of this study; student achievement and school level poverty. Student achievement scores were obtained from DESE and represent the percentage of fourth grade students scoring in the top two score categories, proficient or advanced, on the 2015 Missouri Assessment Program (MAP) English language arts assessment. School level poverty was determined using the percentage of families in the school who qualify for the federal school lunch program (FRL) in 2015 obtained from DESE.

Table 2

Descriptive Statistics for Student Achievement and School Poverty Level

Variable	R	Min	Max	*M* (*SD*)
MAP	52.5	30.0	82.5	58.79 (11.56)
FRL	80.3	19.7	100.0	62.93 (17.70)

Note. *N*=50. MAP= percentage of students scoring proficient or advanced. FRL= percentage of families qualifying for free or reduced lunch program.

The descriptive statistics indicate a diverse sample. Student achievement scores ranged from 30 percent of fourth grade students scoring proficient or advanced to 82.5 percent scoring proficient or advanced on the state achievement test with a mean score of 58.79 percent (*SD* 11.56). These results show the respondent schools' test scores are dissimilar. School level poverty data also show diversity in the sample. This study sample had a school level poverty range of 80.3 meaning the sample included schools with extremely low poverty levels and schools with extremely high school poverty levels. The school with the lowest poverty in the study had 19.7 percent of students qualifying for free and reduced lunches through the federal school lunch program and the school with the highest school poverty level had 100 percent of students qualifying for free and

reduced lunches. The FRL mean of 62.93 and the standard deviation of 17.70 indicate high levels of diversity among study participants. Descriptive statistics indicate a diverse sample with rural location being one common characteristic.

Inferential Statistics

An independent-sample *t*-test was conducted to compare the English language arts achievement of fourth grade students in Missouri rural schools reporting high academic optimism with student achievement in schools reporting low academic optimism. High academic optimism was determined by the School Academic Optimism Scale (SAOS) standardized school academic optimism score. Scores at or above 650 were considered high. The answer to the first research question is no; there was not a significant difference, $t(48) = 1.87$, $p = .068$, 95% C[.47, 12.89] in achievement scores between the 18 schools reporting high academic optimism ($M = 62.76$, $SD = 12.38$) and 32 schools reporting low academic optimism ($M = 56.55$ $SD = 10.63$). These results do not provide sufficient evidence to conclude that academic optimism does impact student achievement.

Additional *t*-tests were used for each of the three SAOS subscales to determine if there was a difference in student achievement for schools reporting a high subscale score versus schools reporting a low score on the subscale. The same cut score, 650, was used to distinguish high scores from low scores. There was a significant difference, $t(48) = 2.71$, $p = .01$, 95% CI [2.28, 15.34], in achievement scores between the 17 schools reporting high academic emphasis ($M = 64.60$, $SD = 11.38$) and the 33 schools reporting low academic emphasis ($M = 55.79$, $SD = 10.62$). These results suggest academic emphasis does significantly impact student achievement. Specifically, the results suggest

when rural schools have high levels of academic emphasis students perform better on state assessment tests than rural schools that have low levels of academic emphasis. The *t*-test results for collective efficacy and faculty trust in clients indicate there was not a significant difference in achievement scores for schools reporting high levels of either school factor measured by the SAOS.

Multi-factor variance analysis.

A multi-factor variance analysis was used to determine the impact of poverty level combined with academic optimism on student performance in Missouri rural schools. The cut score used for poverty was based on the mean poverty level of the top 10 percent of sample schools when ranked by poverty level (M = 100). Six schools in the sample had poverty levels of 100 percent. The results of the two-way ANOVA revealed a main effect of 100 percent poverty, $F(1,46) = 4.71$, p = .035, was statistically significant. Based on the results, the achievement scores of schools with 100 percent poverty (M = 48.73, SD = 9.25) differ from schools with less than 100 percent poverty (M = 60.16, SD = 11.24) more than would be expected by chance alone. There is sufficient evidence to conclude that poverty significantly impacts student achievement when poverty level is 100 percent. Schools with 100 percent poverty had 11.43 percent fewer students scoring proficient or advanced on the state English language arts assessment than schools with less than 100 percent poverty. The academic optimism effect, F(1, 46) = 1.93, p = .17, and interaction effect, , F(1, 46) = .06, p = .82, were both non-significant. The two schools with 100 percent poverty reporting high academic optimism had a mean achievement level of 54.15 percent proficient and advanced (SD = 11.81). The four schools with 100 percent poverty reporting low academic optimism had

a mean achievement level of 46.03 (SD = 8.17). The mean achievement scores of schools with low poverty and high academic optimism (M = 63.84, SD = 12.38) were higher than achievement scores of schools with low poverty and low academic optimism (M = 58.05, SD = 10.07). However, the results of the ANOVA indicate the mean differences were not great enough to rule out chance occurrence or sampling error. The results did not provide credible evidence to conclude that academic optimism does significantly impact student achievement. Based on the analysis, the researcher was not justified in concluding that achievement scores are impacted by academic optimism when combined with poverty.

Another ANOVA was used to determine the impact of poverty level combined with academic emphasis on student English language arts achievement. Results of the ANOVA revealed poverty level, $F(1, 46) = 5.70$, $p = .021$, significantly impacted student achievement when poverty level was 100 percent. Academic emphasis, $F(1, 46) = 3.12$, $p = .084$, did not significantly impact student achievement. The combined effect of poverty and academic emphasis was not significant. It is reasonable to conclude that academic emphasis does impact student achievement based on the results of the t-test, but the results did not provide sufficient evidence to conclude that academic emphasis impacts achievement when poverty is considered.

In an effort to provide a comprehensive analysis of the sample data, tests were completed for other sample subgroups. Additional ANOVA tests were run with varied cut scores and with data disaggregated by state regions and locale codes. Academic optimism cut score of 500, typical school mean, did not yield comparable group numbers. The number of schools with low academic optimism scores was 4 while 46 schools had high academic optimism scores. Academic optimism levels and achievement were also

analyzed based on locale code and region of the state. No statistically significant results were found in the additional tests.

Summary

This chapter reviews the results of the statistical analysis of data used to answer the questions guiding this research. Results indicate there is no significant difference in fourth grade English language arts achievement in Missouri rural schools with high and low levels of academic optimism. There was not sufficient evidence to conclude that academic optimism impacts student achievement when combined with poverty level. The analysis revealed there is a statistically significant difference in achievement of schools with high and low levels of academic emphasis. The analysis verified poverty level has a significant impact on student achievement. Chapter five reveals the implications of this study.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

This study examined the difference in achievement of students on the annual Missouri fourth grade English language arts assessment in schools with high academic optimism versus achievement of students in schools with low academic optimism. The study also examined the impact of poverty level combined with academic optimism on student achievement. The results of the statistical analysis used to address the first question guiding this research found no statistically significant difference ($p = .07$) in academic achievement in schools reporting high levels of academic optimism when compared to schools with low levels of academic optimism. The results of the analysis used to answer the second guiding question also found no statistically significant difference ($p = .82$) in academic achievement when academic optimism and poverty were combined. The findings of this study are not consistent with the results found by Hoy, Tarter, and Woolfolk Hoy (2006) as was expected.

Though not sufficiently conclusive to answer the research questions, the results indicated the potential for a difference in student achievement does exist when academic optimism levels are high. Academic optimism is a general latent construct made up of three components. The results of the analysis of the three components found strong statistical significance in one of the components, academic emphasis ($p = .01$), and indicated there was potential for the other two component, faculty trust in clients ($p = .06$) and collective efficacy ($p = .06$), to impact student achievement. The potential is the basis for recommendations outlined in this chapter.

Conclusions

The data analysis did not provide strong statistical evidence to support conclusions related to the questions guiding this research. Data indicate the differences in student achievement were approaching statistical significance when compared by levels of academic optimism and each of the three sub-components of academic. The small sample size of this study potentially impacted the results of the statistical treatments. The mean difference required for statistical significance in a small sample is much larger than the mean difference required in a large sample. It is reasonable to assume that a larger sample could yield more conclusive results. In addition to the small sample size, the school reported academic optimism levels could have also impacted the results of this study. The small sample size of this study reported excessively high levels of academic optimism with a mean score one standard deviation higher than the typical school score provided by the authors of the survey. The reported academic optimism scores are much higher than would typically be expected. It is reasonable to assume that a larger sample would yield academic optimism scores closer to the standardized distribution found in other studies (Hoy, Tarter, Woolfolk Hoy, 2006) and lead to more reliable results to answer the research questions guiding this study.

Research questions.

There was not sufficient evidence to conclude there was a difference in achievement levels of schools with high academic optimism when compared to schools with low academic optimism. The first research question in this study was to determine if a difference existed in the fourth grade English language arts achievement scores between schools with high and low levels of academic optimism using 650 as a cut score.

Results of an independent sample *t*-test demonstrated no significant difference in student achievement based on levels of academic optimism. The results of the independent-sample *t*-test suggest there is potential for a difference to be identified in a larger sample. The alpha level for this study was set at the educational research standard level of .05. The p-value for academic optimism, .068, lead the researcher to conclude that there is potential to find a significant difference in achievement scores of schools reporting high levels of academic optimism in a larger sample size. Additional potential for academic optimism to impact student achievement can be found in the mean achievement scores of sample subgroups. The subgroups associated with the first research question of this study are schools reporting high academic optimism, 650 or above, and schools reporting lower academic optimism, below 650. Although not significantly different, the difference in mean achievement score between the 18 schools reporting high academic optimism (M = 62.76, SD = 12.38) and 32 schools reporting lower academic optimism (M = 56.55 SD = 10.63) is 6.21. The achievement scores of schools reporting high academic optimism levels are on average four percent higher than the state mean (58.5) while schools reporting lower academic optimism levels are two percent lower than the state mean.

The second research question asked if there is an impact on student achievement when academic optimism is combined with school poverty level. Consistent with previous research on educational outcomes, the multi factor variance analysis verified poverty has a significant impact on student achievement (Dahl & Lochner, 2005; Gershoff, Aber, & Raver, 2003; Seccombe, 2000; Yoshikawa, Aber and Beardslee 2012) but there was no significant effect found for academic optimism. There was also no significant interaction effect found when academic optimism and school poverty level

were combined. Based on this data, there is not enough evidence to conclude academic optimism is capable of countering the negative effects of poverty on student achievement.

Significant findings.

The statistical treatment of data yielded two statistically significant findings. One area of interest revealed in the analysis was the difference between student achievements in schools reporting high and low levels of academic emphasis. These findings are consistent with researchers studying the effective school correlates discussed in chapter two (Bickel, 1983; Hallinger & Murphy, 1986; Sweeney, 1982). The *t*-test results indicate student achievement in significantly higher in schools reporting high academic emphasis levels. The p-value of .009 provides strong indication that academic emphasis can be attributed to the difference in achievement scores in the sample schools. Academic emphasis is the extent to which the school is driven by a quest for academic excellence (Edmond, 1979; Hoy, Tarter, & Kottkamp, 1991). It is reasonable to conclude, based on the survey questions, schools reporting high levels of academic emphasis have an environment that is safe, orderly and serious, and teachers are characterized by a belief all students have the ability to achieve rigorous academic goals. It is also reasonable to conclude that students in schools reporting high levels of academic emphasis are characterized by hard work and respect for those who do well academically.

Generalizing outside the data, it might be argued that rural schools with strong academic emphasis could overcome some of the negative achievement outcomes attributed to poverty. Moore, Redd, Burkhauser, Mbwana, and Collins (2002) point out parents of children from poverty are less likely to value education than their affluent peers contributing to academic deficiencies. Parental participation in a school culture

highly focused on academics, continually celebrating academic achievements, and holding students to high academic expectations could impact the parental value system and in turn impact student achievement. Rural schools might be more influential to the value system of the community than their urban peers. Hoyt, Conger, Valde, & Weihs (1997), identified the rural school as a central resource for the rural community indicating parents often relied of the school to provide expertise in a variety of areas. It is reasonable to assume the culture of the school has the potential to influence the culture of the entire rural community. A school culture of academic emphasis could logically influence rural parents, especially parents of children from poverty, to value education, academic achievement, and academic rigor. Additionally, in small communities, a collective community spirit celebrating academic achievement could have a reciprocal impact leading to additional academic achievements. For the sake of argument, consider the impact of an entire rural community vigorously supporting athletic achievements at the high school level. The potential for academic achievements might be great with a community culture supporting high academic standards.

In addition to academic emphasis, school level poverty was also found to have a significant impact on student achievement. The impact of poverty on achievement is consistent with much of the literature reviewed for this study. Condition of Education Reports found a 29 point difference in reading scores of fourth grade students who qualify for free and reduced lunch program and a similar difference for eighth grade students (Aud et al. 2011). The results of the ANOVA did not provide sufficient evidence that any of the school level variables associated with this study had significant impact on student achievement when combined with poverty. Unfortunately, these

findings are consistent with The Coleman Report (1966). The Coleman report noted school inputs had limited influence on achievement beyond influences of student background and socioeconomic status. It was not surprising to find that student achievement in schools with high poverty differed significantly from schools with lower poverty, but a close look at the data indicates there is potential for Coleman's conclusions to be disputed. Academic optimism and each of the three sub-components returned at least marginally significant differences in student achievement scores lending support to the argument that a larger sample size might have shown significant results for all of the school level factors. The data yielded by this study provides convincing evidence that academic optimism in rural schools is worthy of further research.

Recommendations

Conducting a similar study with a larger sample could minimize the statistical uncertainty produced by the small sample of this study. Adding to the sample size of this study is recommended to determine if academic optimism is a viable construct for use in school improvement efforts in rural Missouri schools. Based on the growing population of rural students in the United States (Johnson, Showalter, Lester, & Klein, 2014), future researchers might also consider expanding the sample of rural schools beyond the state of Missouri to enrich the research base informing rural educators. There is a shortage of high quality education research specific to rural schools (Arnold, Newman, Gaddy & Dean, 2005). Rural schools face similar achievement struggles as urban schools, but the characteristics unique to the rural environment may require different strategies to meet the needs of students (Johnson et al. 2014). Future research might examine the

relationship between academic emphasis and trust as they relate to the unique qualities of rural schools.

The high levels of academic optimism reported by Missouri rural schools in this study resulted in a mean standardized score one standard deviation higher than the survey author's typical school set. It could be beneficial to look closer at the school culture dynamics of rural schools to see if higher levels of teacher efficacy, faculty trust in clients, and academic emphasis are typical in the rural environment or if the result was simply a coincidence in this study.

The results of this study do not statistically support the notion that academic optimism impacts student achievement above and beyond the impact of poverty found in previous research (Hoy et al., 2006; Kirby & DiPaola, 2009; McGuigan & Hoy, 2006; Smith & Hoy, 2007; Wagner & DiPaola, 2011); however, the results indicate the potential exists. Based on indicated potential and previous research, further research is needed on the subject to investigate the potential academic optimism with a larger sample size. Results for collective efficacy and faculty trust in clients were found to be approaching significance. Previous research has supported positive connections between all three components of academic optimism and student achievement (Hoy & Hannum, 1997; Hoy, Tarter & Woolfolk Hoy, 2006; Hoy, & Feldman, 1987; Goddard, Tschannen-Moran & Hoy, 2001). A deeper understanding of the interactions of the components of academic optimism could inform educator practice and in turn improve student achievement. Further testing of the connections among the components of academic optimism is in order.

This study raised some interesting questions about the relationship of academic emphasis to student achievement. Student achievement was found to be significantly different in schools reporting high levels of academic emphasis. It seems logical that schools focusing on academics have higher student achievement than schools focusing on other aspects of education; however, academic emphasis is a multifaceted construct (Hoy, Tarter, & Kottkamp, 1991) that warrants further research. The recommendations associated with academic emphasis are not only related to future research. This researcher recommends educators not wait for the results of further research to begin having conversations about school level academic emphasis. Teachers and school leaders could potentially benefit from taking a closer look at the components of academic emphasis. Working from the survey as a baseline and collaborating around what changes could be made to improve school level academic emphasis, educators could develop their school culture into one that meets the essential components identified by Hoy, Tarter, and Kottkamp (1991). Academic emphasis is the instrumental aim of an effective school, typically written as a formal goal. Schools with strong academic emphasis have high levels of cooperation; students cooperate with the teacher and with each other. Teachers and students engage in cycles of improvement and show respect for achievement (Hoy, Tarter, & Kottkamp, 1991). Academic emphasis is the behavioral component of academic optimism. School leaders should take advantage of the accessibility of behaviors. Unlike the cognitive and emotional components of academic optimism, behaviors can be observed. School leaders should use the specific behaviors consistent with academic emphasis to analyze and adjust their current system. Behaviors of teachers and students associated with academic emphasis include; setting high standards

for performance, respecting others who get good grades, seeking extra work so they can get good grades, publically recognizing and acknowledging student achievement, seeking opportunities to improve on previous work, providing an orderly and serious working environment, actively believing students can achieve the goals that have been set for them, actively believing students have the ability to achieve academically. Collaborating around academic emphasis might put schools on track to develop an academically optimistic culture and improve achievement outcomes for students.

Summary

Academic optimism has shown promising results as a construct capable of overcoming the negative impact of poverty on student achievement (Hoy, Tarter & Woolfolk Hoy, 2006). This quantitative study extended the research base of academic optimism to include Missouri rural schools in an effort to develop a better understanding of the construct and the construct's impact on student achievement beyond the effects of socioeconomic factors. The results of the study did not provide the researcher with significant evidence of a connection between academic optimism and student achievement. The results did however indicate there is potential for this construct to make a difference in student achievement. This researcher believes there is benefit in developing a school culture in which teachers and students feel efficacious, adults have deep relational trust, and the focus is on rigorous academic expectations with or without the statistical evidence to support that belief.

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Appendix A

Permission To Use Survey

Wayne Hoy whoy@mac.com 9/28/15

HI JILL—

You have my permission to use the Academic Optimism and Collective Efficacy instrument in your research.

Good luck.

Wayne

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Appendix B

School Academic Optimism Scale

D1 Enter the 6 digit code from the email that was forwarded to you:

D2 CONSENT TO PARTICIPATE IN RESEARCH Academic Optimism and Student Achievement You are asked to participate in a research study conducted by Jill White enrolled in the Educational Administration program at Southwest Baptist University. You are invited to participate in this research project because you are a certified teacher in a Missouri rural elementary school. The purpose of this research project is to study the impact of academic optimism on student achievement in Missouri rural schools. Your participation in this research study is voluntary. You may choose not to participate or skip any question that you are not comfortable in answering. If you decide to participate in this research survey, you may withdraw at any time. If you decide not to participate in this study or if you withdraw from participating at any time, you will not be penalized. The procedure involves completing an online survey that will take approximately 5-7 minutes. As this is an online survey, participants can complete the survey in the location of his/her choice. Your responses will be confidential and we do not collect identifying information such as your name, email address or school name. School data will be agregated using the 6 digit school code provided in the forwarded email. The questions presented in the survey are focused on collective teacher efficacy, the school's level of academic emphasis, and the faculty's trust in parents and students. The questions are designed to solicit information about the school's level of academic optimism. Data gathered will be completely confidential. All data is stored in a password protected electronic format. To help protect your confidentiality, the surveys will not contain information that will personally identify you. The results of this study will be used for scholarly purposes only. If you have any questions or concerns about the research study, please contact Jill White at jillwhite@joplinschools.org or (573) 220-4131. You may contact the RRB for questions or concerns regarding this study at rrb@sbuniv.edu. The Research Review Board (RRB) for Southwest Baptist University has determined that this proposed research project meets the criteria for Exempt status as per policy 1.15.3 in the faculty guidelines. Clicking on the "agree" button below indicates that: · You have read the above information. · You have voluntarily agree to participate. · You are at least 18 years of age. If you do not wish to participate in the research study, please decline participation by clicking on the "disagree" button.

- ❍ AGREE
- ❍ DISAGREE

D3 Choose your school's RPDC (see Map below if you are unsure)

- 1 Southeast - Cape Girardeau
- 2 The Hook Center - Columbia
- 3 Kansas City
- 4 Northeast - Kirksville
- 5 Northwest - Maryville
- 6 South Central - Rolla
- 7 Southwest - Springfield
- 8 St. Louis
- 9 Central – Warrensburg

Directions: Please indicate your degree of agreement with each of the statements about your school from strongly disagree to strongly agree. Your answers are confidential.

- Strongly Disagree
- Disagree
- Somewhat Disagree
- Somewhat Agree
- Agree
- Strongly Agree

Q1 Teachers in this school are able to get through to the most difficult students
Q2 Teachers here are confident they will be able to motivate their students
Q3 If a child doesn't want to learn teachers here give up
Q4 Teachers here don't have the skills needed to produce meaningful results
Q5 Teachers in this school believe that every child can learn
Q6 These students come to school ready to learn
Q7 Home life provides so many advantages that students are bound to learn
Q8 Students here just aren't motivated to learn
Q9 Teachers in this school do not have the skills to deal with student disciplinary problems
Q10 The opportunities in this community help ensure that these students will learn
Q11 Learning is more difficult at this school because students are worried about their safety
Q12 Drug and alcohol abuse in the community make learning difficult for students here
Q13 Teachers in this school trust their students
Q14 Teachers in this school trust the parents
Q15 Students in this school care about each other
Q16 Parents in this school are reliable in their commitments
Q17 Students in this school can be counted upon to do their work
Q18 Teachers can count upon parental support
Q19 Teachers here believe that students are competent learners
Q20 Teachers think that most of the parents do a good job
Q21 Teachers can believe what parents tell them
Q22 Students here are secretive

Directions: Please indicate the degree to which the following statements characterize your school from Rarely Occurs to Very Often Occurs. Your answers are confidential.

- Rarely
- Sometimes
- Often
- Very Often

Q23 The school sets high standards for performance
Q24 Students respect others who get good grades
Q25 Students seek extra work so they can get good grades
Q26 Academic achievement is recognized and acknowledged by the school
Q27 Students try hard to improve on previous work
Q28 The learning environment is orderly and serious
Q29 The students in this school can achieve the goals that have been set for them
Q30 Teachers in this school believe that their students have the ability to achieve academically

Appendix C

Scoring the SAOS

Collective Efficacy (CE) of the School (items 1-12)

First, reverse scores on the following items: 3, 4, 8, 9, 11, 12, that is, score 1=6, 2=5, 3=4, 4=3 5=2, 6=1. Next, compute the average score for each individual on the first 12 items; that is, for each person, sum all the scores on the first 12 items and divide by the number of items for which you have responses. Finally, sum the average individual scores for all teachers and divide by the number of teachers in the school who responded; this is the average collective efficacy (CE) score for the school and will be between 1 and 6.

Faculty Trust (FT) in Clients (items 13-22)

First, reverse scores on item 22, that is, 1=6, 2=5, 3=4, 4=3 5=2, 6=1. Next, compute the average score for each individual on the items 13 through 22; that is, for each person, sum all the scores on those 10 items and divide by the number of items for which you have responses. Finally, sum the average individual scores for all teachers and divide by the number of teachers in the school who responded; this is the average Faculty Trust in Parents and Teachers score (FT) score for the school and will be between 1 and 6.

Academic Emphasis (AE) of the School (items 23-30)

Score all the items with a score from 1 to 4. Next, compute the average score for each individual on the items 23 through 30; that is, for each person, sum all the scores on those 8 items and divide by the number of items for which you have responses. Finally, sum the average individual scores for all teachers and divide by the number of teachers in

the school who responded; this is the average Faculty Trust in Parents and Teachers score (AE) score for the school and will be between 1 and 4.

Compute Academic Optimism Score

Create standardized scores (SS) for each component as follows:

Standard Score for Collective Efficacy (SSCE) = [100X(CE-3.96)/.33] + 500

Standard Score for Trust (SSFT) = [100X(T-3.65)/.39] + 500

Standard Score for Acad. Emphasis (SSAE) = [100X(AE-2.75)/.26] + 500

Then compute an Academic Optimism Score as follows:

Academic Optimism = [(SSCE)+(SSFT)+(SSAE)] divided by 3

Interpreting the School Academic Optimism Score

This academic optimism score for the school can be interpreted by comparing the school's score with a typical set of schools. The scores have been standardized using the earlier formulas such that the mean for a typical school is 500. Thus, a score of 650 on academic optimism represents a very high score just as a score of 350 depicts a very pessimistic view on academic optimism. Most school scores, however, fall between these extremes. The range and interpretation is based upon the normal distribution.

If the score is 200, it is lower than 99% of the schools.

If the score is 300, it is lower than 97% of the schools.

If the score is 400, it is lower than 84% of the schools.

If the score is 500, it is average.

If the score is 600, it is higher than 84% of the schools.

If the score is 700, it is higher than 97% of the schools.

If the score is 800, it is higher than 99% of the schools.