

EFFICACY AND ACADEMIC EMPHASIS: A LEADERSHIP FACTOR IN
ELEMENTARY SCHOOL PRINCIPALS, AND ITS RELATIONSHIP TO HOPE,
RESILIENCE, OPTIMISM, AND VIEW OF INTELLIGENCE

DISSERTATION

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by

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ABSTRACT

The goal of this research was to explore the construct of academic optimism at the principal level and examine possible explanatory variables for the factors that emerged from the principal academic optimism scale. Academic optimism contains efficacy, trust and academic emphasis (Hoy, Tarter & Woolfolk Hoy, 2006). It has been studied at the individual and collective level and has been shown to predict academic achievement, even after controlling for socio-economic status and prior student achievement (Hoy, Tarter and Woolfolk Hoy, 2006; McGuigan & Hoy, 2006; Hoy & Smith, 2007). Academic optimism is also associated with a number of positive organizational behaviors, including professional success (Lee, Dedrick, & Smith, 1991), and a more humanistic (Woolfolk & Hoy, 1990) and student-centered approach (Czerniak & Schriver, 1994).

In its 2011 report on school principal effectiveness, the Wallace Foundation noted that principal leadership is among the most pressing matters on a list of public school issues, coming in second after teacher quality. Because of academic optimism's relationship to positive outcomes and behaviors at the teacher level, and because the principal plays a vital role in establishing school climate and trust (Aelterman, Engels, Verhaeghe, Sys, Van Petegem, & Panagiotou, 2002), this dissertation study explored principal academic optimism.

Human resource literature has also connected hope, resilience, and optimism to positive organizational behaviors (Luthans, Youssef, & Avolio, 2007). This research investigated these variables as possible predictors of the factors that emerged from the principal academic optimism scale. I added view of intelligence as a possible predictor, because the impact one's view of intelligence has on motivation and resilience has been noted in the literature (Burns & Isbell, 2007; Dweck, 1999).

Much of the literature on principal leadership also notes the importance of context. When considering possible explanatory variables, I examined a number of demographic variables, including the size of the school, the principal's experience, the free and reduced lunch population and the type of school as rural, urban or suburban.

This study's sample contained 95 elementary school principals from Ohio. These principals completed two surveys administered at different times. The first survey was a principal academic optimism scale, created for this study. The second survey combined items from current instruments used to measure hope, resilience, optimism and view of intelligence.

Factor analysis and multiple regression analyses were used to examine the data. The factor analysis of the principal academic optimism scale revealed that the components of academic optimism (efficacy, trust, and academic emphasis) divided into six variables: efficacy in instructional supervision; efficacy in management; trust in students; trust in parents; academic emphasis; and celebration of success. Further principal axis factor analysis with varimax rotation on these six variables revealed two factors, the leadership factor and trust. The leadership factor contained both efficacy variables, the celebration of

success, and academic emphasis. The second factor contained trust in parents and trust in students. Based on the results, there was a concern that despite the emergence of the trust factor, insufficient construct coverage was available to ensure validity of the use of this factor. Therefore, while acknowledging this limitation, for the remainder of this dissertation study, I focused on the leadership factor.

The regression analyses revealed that resilience alone was able to predict nearly a quarter of the variance in the leadership factor. The demographic variables, even with interactions considered, were not significant predictors of the leadership factor.

The most important contribution this dissertation study makes to the discussion of principal leadership is the emergence of the leadership factor, which is principal behavior grounded in a sense of efficacy to provide both instructional leadership and effective management as well as to emphasize and celebrate academic success of students. Although academic optimism has been confirmed as a school-level and teacher-level second-order latent construct containing efficacy, trust in clients, and academic emphasis, it was not confirmed at the principal level. The study also found that resilience appears to be a key predictor of the leadership factor, explaining nearly a quarter of the variance.

Dedicated to my husband, Brian, and our two hopeful, resilient children, Paige and Luke.

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My decision to return to school and earn a doctorate was not mine alone, as it had a huge impact on my family and required sacrifices from all. My family's unquestioning support and encouragement gave me not only the confidence to take this step, but also the resilience and drive to complete it.

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Fields of Study

Major Field: Education

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CHAPTER 1

INTRODUCTION

The current study explored the components of academic optimism at the principal level and considered possible predictors of factors that emerged from the principal academic optimism scale. Although academic optimism of teachers has been studied as a positive organizational and individual force for student achievement, this construct has not been explored or confirmed as a construct at the principal level. This study began the exploration of academic optimism at the principal level. In this first chapter, educational leadership is discussed and conceptual links between the way the role of a principal is framed and academic optimism are presented. Basic terms are defined and the research questions and limitations of the study are identified.

Background of the Study

“Effective principal, effective school” is a maxim that continues to be supported (Bossert, Dwyer, Rowan & Lee, 1982; Wallace Foundation, 2011). In 1979, Erickson and Reller argued that the principal is one of the most critical positions in American education, and over thirty years later, the Wallace Foundation (2011) reported that principal leadership is among the most pressing matters on a list of public school issues, coming in second after teacher quality. However, the role of the principal has been studied through a number of disparate perspectives (Daresh, Gantner, Dunlap, &

Hvizdak, 2000), and the principal's role continues to change as new policies redirect education and redefine job descriptions for principals (Beck & Murphy, 1993).

The Wallace Foundation's (2011) report on school leadership views the principal's role as tied to five key responsibilities:

- “shaping a vision of academic success for all students, one based on high standards;
 - creating a climate hospitable to education in order that safety, a cooperative spirit and other foundations of fruitful interaction prevail;
 - cultivating leadership in others so that teachers and other adults assume their part in realizing the school vision;
 - improving instruction to enable teachers to teach at their best and students to learn at their utmost;
 - and managing people, data, and processes to foster school improvement”
- (p. 4).

These five responsibilities tap cognitive, affective and behavioral aspects of leadership, and the components of academic optimism address these aspects as well. Academic optimism contains three elements: self-efficacy, trust in students and parents, and academic emphasis. Efficacy is a belief or expectation; it is cognitive. Trust in students and parents is an affective response. Academic emphasis is behavioral, a push for high expectations in the school workplace (Hoy, Tarter, & Woolfolk Hoy, 2006).

Academic optimism has been studied at the teacher level, both individually and collectively. It has been significantly related to a number of positive behaviors and beliefs, such as professional success and satisfaction (Lee, Dedrick, & Smith, 1991), student success (Anderson, Greene, & Loewen, 1988; Midgley, Feldlaufer, & Eccles, 1989; Ross, 1992, Tschannen-Moran et al., 1998), and a more humanistic, open, and student-centered approach (Woolfolk & Hoy, 1990; De Forest & Hughes, 1992; Czerniak & Schriver, 1994; Enochs, Scharmann, & Riggs, 1995). Student achievement, even after controlling for SES and prior academic achievement, is associated with academic emphasis, which is a press for academic achievement, where teachers set high, but attainable goals for students, maintain an orderly and serious learning environment, and where students are motivated and respect academic achievement (Hoy & Miskel, 2005; Hoy, Tarter, & Kottkamp, 1991; Hoy, Tarter, & Woolfolk Hoy, 2006).

Need and Purpose

Exploring academic optimism's components at the leadership level can enrich our understanding of the principal's roles and set the stage for future research on the qualities of successful school leaders. More recent publications, such as the Wallace Foundation's (2011) report, "The school principal as leader: Guiding schools to better teaching and learning" have taken a more global and inclusive view of the responsibilities of the principal, but historically, researchers examined the principal as either an instructional leader or a human resource manager. Academic optimism's components are conceptually related to all of these approaches.

The multiple perspectives of the principal's role and their relationships to academic optimism.

Principals have been viewed through a variety of lenses, including instructional supervision, management, transformational leadership, and human capital management. The Wallace Foundation's (2011) report offers a modern conception of the responsibilities principals face and helps to integrate the various lenses of the principal that have been historically discussed in the literature separately. These responsibilities are aligned with the many perspectives through which school leadership has been studied.

1. Shaping a vision of academic success for all students, one based on high standards is discussed in the literature that views the principal as an instructional supervisor (Danley & Burch, 1978; Edmonds, 1979; Helland & Winston, 2005; Mackler, 1996; Weller, Buttery & Bland, 1994).
2. Creating a climate hospitable to education in order that safety, a cooperative spirit and other foundations of fruitful interaction prevail is discussed in the literature that views the principal as a manager (Bossert, Dwyer, Rowan & Lee, 1982; Griffith, 1999)
3. Cultivating leadership in others so that teachers and other adults assume their part in realizing the school vision is discussed in the literature that views the principal as a transformational leader and human capital manager (Blase and Kirby, 1992; Engels, et. al., 2008; Griffith, 2003; Koh, Steers & Terborg, 1995).
4. Improving instruction to enable teachers to teach at their best and students to learn at their utmost is discussed in the literature that views the principal as an

instructional supervisor (Danley & Burch, 1978; Edmonds, 1979; Griffith, 1999; Helland & Winston, 2005; Mackler, 1996; Weller, Battered & Bland, 1994).

5. Managing people, data, and processes to foster school improvement is discussed in the literature where the principal is viewed as a human resource manager (Engels et al., 2008; Odden, 2001; Kimball, 2011).

The responsibilities listed in the report are also conceptually related to the components of academic optimism: trust, efficacy, and academic emphasis, which are these components, are foundational beliefs that help shape these five responsibilities of a principal. Trust is necessary for a positive school climate (Tarter, Sabo, & Hoy, 1995). Academic emphasis leads to high expectations and a push for rigorous instruction and assessment (Hoy & Miskel, 2005; Hoy, Tarter, & Woolfolk Hoy, 2006). Finally, efficacy means principals believe they have the capability to do the job, enough hope and optimism to persist, and enough resilience to deal with failure and the stress of demanding situations (Bandura, 1977).

Before the 2011 report, and prepared for the Wallace Foundation Grant on Leadership Assessment, Murphy, Elliott, Goldring, and Porter (2006) conceived of a learning-centered leadership model, which lays the conceptual framework that can connect principal values, personal characteristics, knowledge and experience to their leadership behaviors, and ultimately, to student success. Like academic optimism, this conceptual model contains affective, cognitive and behavioral aspects. Learning centered leadership also bridges the gaps among a number of approaches to principal effectiveness in the literature, including the principal as instructional supervisor, the principal as human

resource manager, literature on psychosocial characteristics of effective leaders, and the importance of context to the performance of a principal.

The Principal as Instructional Supervisor.

Researchers who consider the principal as the instructional supervisor identify successful leaders as people who can serve as “master teachers” who focus on school processes of instruction (Danley & Burch, 1978; Griffith, 1999). From this perspective, effective principals provide effective feedback and support to help other teachers improve. They also set high achievement goals and sustain an environment conducive to learning (Edmonds, 1979), so this conception of the principal’s role underscores the importance of high levels of academic emphasis.

As data driven decision-making has become more important for school accountability, successful principals are defined as task-oriented leaders who emphasize curriculum and achievement, create a positive instructional environment and a focus on instructional improvement using achievement data (Hallinger & Murphy, 1986; Weller, Buttery & Bland, 1994). The Wallace Foundation report on school principals (2011) notes that our society’s definitions of high expectation and rigor have changed as global economic forces require higher level thinking in all jobs, and we have begun to accept that we must close the achievement gap if we want to remain economically competitive. Therefore, a principal’s level of academic emphasis, where high expectations are set and the school climate reflects the organization’s value of achievement, is crucial to school reform and no longer an option, but a required focus for principals.

The “principal as instructional leader” research addresses the behavioral components of the role and aligns with academic optimism’s third component, academic emphasis. A principal must be able to provide quality summative and formative feedback to help teachers continually improve instruction and increase the academic emphasis of the school. Exploring academic optimism at the leadership level can help expand the way we consider the position, as it would not only examine the academic emphasis a principal’s behavior fosters, but also look at trust and efficacy, which are cognitive and affective components often missing from the literature on the principal as instructional leader.

The Principal as Human Resource Manager.

Effective school leaders, when viewed through the perspective of principal as human resource manager, create consensus, maintain discipline, and buffer classrooms from outside interference, such as schedule interruptions, and disruptive behavior in and around the classroom. They must also allocate resources effectively, know community power structures, such as churches, school boards, and influential community members and groups, and maintain appropriate parent relations (Bossert, Dwyer, Rowan, & Lee, 1982; Griffith, 1999). The Wallace Foundation report (2011) supports this perspective by identifying one of the key responsibilities of principals as building a sense of school community, where every member of the community is respected, and the atmosphere is an “upbeat, welcoming, solution-oriented, no-blame, professional environment” (p. 6).

This environment is built through trust, a component of academic optimism. Principals must foster a trusting and supportive environment in which teachers can feel

safe to take risks (Tarter, Sabo & Hoy, 1995). Shared leadership and interpersonal relationships are keys to success, because shared decision-making results in higher teacher motivation and better work settings, which in turn, leads to better student achievement (Wallace Foundation, 2011). They must also build trust with parents and students, the second component of academic optimism, which researchers have discovered are linked (Goddard, Tschannen-Moran, & Hoy, 2001; Hoy & Tschannen-Moran, 1999). Exploring academic optimism at the leadership level might help contribute to the understanding of trust's role in school leadership.

The Principal as Transformational Leader.

Transformational leadership theory ascribes the role of mediator to the principal (Engels et al, 2008). This theory considers strong principals to be motivators, who inspire teachers to excel and adopt positive attitudes (Griffith, 2003; Koh, Steers & Terborg, 1995). They must also manage human capital effectively (Kimball, 2011; Odden, 2011) define the principal's role as strategically managing talent, which is done through recruitment and retention, a shared vision, relevant professional development that employs efficacy-building activities, effective teacher evaluations, data-driven decision-making, and recognition of success of a staff (Kimball, 2011; Hoy & Tarter, 2011). Efficacy, trust and an academic focus are conceptually related to all these tasks.

The role of context in school leadership.

Principals must find the style and structures most suited to their own local situation, because certain principal behaviors will have different effects in different organizational contexts (Bossert et. al, 1982). This finding underscores the importance of

Bronfenbrenner's (1989) Ecological Systems Theory, which reminds us that development is contingent on the relationships within a social context, and that development is a product of the integration of multiple systems. The school community is situated at the microsystem level, and principals have a direct effect on the microsystem, specifically a school's climate (Aelterman, Engels, Verhaeghe, Sys, Van Petegem, & Panagiotou, 2002) and play a key role in establishing the culture of a school and socializing, supervising, and supporting teachers, which in turn has a profound effect on the student's development, and the functioning and well-being of teachers (Aerlterman et al., 2002; Hallinger, 2003; Hallinger & Heck, 1996). Two of academic optimism's components, efficacy and trust, are also context dependent (Bandura, 1977; Hoy, Tarter & Woolfolk Hoy, 2006), so they might help further illuminate how context plays a role in successful school leadership.

Psychosocial characteristics of strong leaders and their relationship to academic optimism.

Human resource development and organizational leadership researchers have also studied leadership in relation to personality traits or psychosocial characteristics. Schneider and Burton (2005) assert leadership qualities should be prioritized over management and pedagogical abilities in determining effective principals. Post 9/11, a new Positive Approach to Leadership, called PAL, studied leadership in relation to Realistic optimism, Intelligence with an emphasis on emotional intelligence, Confidence and Hope (RICH) (Helland & Winston, 2005). Luthans and his colleagues developed psychological capital (PsyCap), which contains hope, efficacy, optimism and resilience,

and studied its impact on leaders across a number of industries. Research on PsyCap is offering promising results about the effect a leader's hope, efficacy, optimism and resilience can have on employee attitudes, behaviors, and performance, especially in service industries where more social interactions that rely on emotional norms exist (Avey, Reichard, Luthans & Mhatre, 2011; Rafaeli & Sutton, 1987). Studying these psychosocial characteristics in relation to school leaders and academic optimism's factors might help clarify how the components of PsyCap translate to school leadership. PsyCap helped inform the creation of the efficacy questions in the principal academic optimism survey in this study. It was used instead of RICH, because its measure adapted items from the scales chosen in this study, including the Hope Scale (Snyder et. al, 1996), the LOT-R that measures optimism (Scheier & Carver, 1985), and the Resilience Scale (Wagnild & Young, 1993).

Aims of the Study and Research Questions

This study aimed to explore the components of academic optimism and the characteristics of strong leaders. The components of academic optimism are conceptually related to many of the ways researchers have defined the role of the principal over the past 40 years. The academic emphasis component of academic optimism encompasses a number of behaviors studied in the literature where the principal is perceived as the instructional leader. This means the principal is a master teacher, who gives high quality formative and summative feedback and who can help teachers set high achievement goals, use data to analyze their students' progress and drive instruction. The trust

component of academic optimism is conceptually related to the principal's ability to be a human resource manager. In addition, academic optimism allows us to study the self-efficacy of the principal, and tie into the literature on personal characteristics of effective leaders. Academic optimism's elements also reinforce each other (Beard, Hoy, & Woolfolk Hoy, 2010), so the construct at the principal level has the potential to capture the interconnectivity of a leader's roles, personality traits, beliefs and contexts. Furthermore, research on academic optimism of schools has been promising, as it consistently predicted student achievement, even after controlling for SES and prior student achievement (Hoy, Tarter, & Woolfolk Hoy, 2006). Extending the work to include principals could open an additional pathway beyond learning-centered leadership (Murphy et al., 2006) to connecting principals to student achievement.

Statement of the Research Questions

This study explored three questions:

1. How do the components of academic optimism translate to the principal level?
2. How does a principal's view of intelligence, general life optimism, resilience or hope explain the variance in the factors emerging from the principal academic optimism scale?
3. How do contextual variables, such as school type as rural, urban or suburban; principal years of experience; percentage of students on free and reduced lunch; and size of student body explain the variance in factors emerging from the principal academic optimism scale?

To address the first research question, I developed a measure for Principal Academic Optimism (PAO), based on the measures used to study teacher and collective academic optimism and ran exploratory factor analyses. To address the second research question, principals completed existing valid and reliable scales that measure hope, resilience, general life optimism and view of intelligence. I used regression analysis to determine how those characteristics were related to the factors that emerged from the principal academic optimism scale. Finally, I used ANOVA and regression analyses to examine how the principal's context was related to the factors emerging from the principal academic optimism scale.

Scope and Limitations

The study was limited to elementary school principals in Ohio's rural, suburban and urban public school settings. It did not include charter schools, private or parochial school leaders. According to the Ohio Department of Education data as of May, 2012, Ohio has 1893 elementary principals in city, district and exempted school districts. Multiple attempts were made to invite the entire population of Ohio elementary principals to participate. The Ohio Association of Elementary School Administrators emailed my solicitation email to their membership, which is comprised of approximately 1600 elementary administrators, and encouraged participation. Additionally, each functioning district website was visited. Superintendents with direct emails on their websites were emailed and asked to distribute the solicitation email to their elementary principals. Elementary principals with direct emails accessible from their websites were also

personally emailed to request participation. Although an attempt was made to include all elementary principals in Ohio, the sample was not random and cannot claim to be representative of all elementary principals in Ohio, as the final sample contained 95 principals. Participation was voluntary, and many principals throughout the state did not participate.

This study is also an exploratory venture, so no attempt was made to confirm emerging concepts or connect student achievement data or building climate data to the factors that emerged.

Because this study was exploratory in nature, principal axis factor analysis with varimax rotation was used. This statistical analysis allows for the maximum variance within factors, so a greater understanding of the factors that emerged and their relationships to the explanatory variables will require additional data analysis.

Furthermore, demographic data was collected as categorical variables and the principals self-selected their category as rural, urban or suburban. Only four of the participants self-selected urban, so the results of this study cannot be generalized to all Ohio principals.

Definition of Concepts

Academic Optimism.

Academic Optimism is rooted in positive psychology (Seligman & Csikszentmihalyi, 2000) and Bandura's social cognitive and self-efficacy theories (Bandura, 1986, 1997). The construct was initially an organizational one that contained

collective efficacy, faculty trust in parents and students, and academic emphasis, which were found to be interrelated and to reinforce one another (Beard et al., 2010). The construct is also individualistic (Beard et. al, 2008; Beard, Hoy, & Woolfolk Hoy, 2010; Fahy et al, 2010; Woolfolk Hoy, Hoy, & Kurz, 2008). Research on academic optimism's effect on student achievement is promising, because it consistently predicts student achievement, even after controlling for SES (Hoy, Tarter and Woolfolk Hoy, 2006; McGuigan & Hoy, 2006; Hoy & Smith, 2007).

Psychological Capital (PsyCap).

Psychological Capital (PsyCap), like academic optimism, grows out of research on positive psychology, and has been demonstrated conceptually and empirically (Luthans, Youssef, & Avolio, 2007; Stajkovic, 2006) to be a second-order construct, which means it is the product of the shared variance of its four components (Avey, Reichard, Luthans, & Mhatre, 2011). In other words, hope, resilience, optimism and efficacy overlap and form a multidimensional construct (Law, Wong, and Mobley, 1998). In addition to studies on the construct's relationship to positive workplace behaviors, metaanalyses on PsyCap's individual components have shown they are also desirable in an organization (Lopez & Snyder, 2009; Stajkovic & Luthans, 1998).

Hope.

Hope is conceptualized as a cognitive process with three components: goals, agency, and pathways. Hope Theory, introduced by Snyder, Lopez, Sharey, Rand and

Feldman (2003), suggests that hope affects individuals' perceptions with respect to their capacities to conceptualize goals clearly, develop specific strategies to reach their goals, and to initiate and sustain motivation for using their strategies (Snyder, Irving & Anderson, 2003).

Resilience.

Resilience was originally studied in research on risk (Doll & Lyon, 1998). Recent work has examined resilience as patterns of positive adaptation of individuals facing risks that can potentially harm development (Masten et. al, 2008). Resilience is generally defined as containing three characteristics: a staunch acceptance of reality, but with an optimistic outlook; a deep belief, often supported by strongly held values; and the ability to make do with whatever is at hand (Coutu, 2002). New organizational research on resilience seeks to extend the research on individual resilience to understand how organizations and their members successfully adapt in the face of adversity (Sutcliffe & Vogus, 2003).

General Life Optimism.

General Life Optimism has been linked to positive moods, achievement, popularity, perseverance, effective problem solving, good health and morale, and achievement (Beard, 2009). Peterson and Chang (2003) note optimism exists as an inherent feature of all humans: and, as a personal disposition, optimism refers to the tendency to believe that one will generally experience good outcomes in life and avoid

bad (Beard, 2009). It has often been studied in the context of expectancy-value theories, which assume behavior reflects a pursuit of goals, with the most important goals being the most valuable (Carver & Scheier, 1998).

View of intelligence.

View of intelligence affects the goals people set and how they perceive failure (Burns & Isbell, 2007). Two opposing theories of intelligence exist (Dweck, 1999; Dweck & Leggett, 1988). One theory, called entity theory, suggests that intelligence is fixed. The other theory is incremental, often called malleable or growth mindset, and it holds that intelligence changes over time. People with incremental views of intelligence see failure as a challenge to overcome. People with fixed views of intelligence see failure as a reflection of a lack of intelligence (Burns & Isbell, 2007).

Trust.

Trust in regard to academic optimism is defined as a “willingness to be vulnerable to another party based on the confidence that the party is benevolent, reliable, competent, honest, and open” (Hoy, Tarter & Woolfolk Hoy, 2006, p. 429). A faculty trusts its principal when “the faculty has confidence that the principal will keep his/her word and act in the best interests of the teachers” (Hoy, 2011, p. 4). Trust is positively related to teacher trust in the school organization and colleagues, principal authenticity, school climate, and principal transformational leadership, and student achievement (Forsyth, Adams, & Hoy, 2011; Hoy, 2002).

Summary

This first chapter provided a description of the background, need and purpose of this study. It briefly reviewed the ways educational leadership has been defined and studied, including the principal as instructional supervisor, human resource manager, and transformational leader. It also discussed the role of context and psychosocial characteristics of strong leaders. The study was situated as one that could address multiple roles of the principal and the psychosocial characteristics of strong leaders. Research questions were posed and the limitations of the study were detailed. Finally, each of the terms and concepts of the study were briefly defined and are further expounded in the next chapter.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter reviews each variable in the study, providing definitions and reviews of the literature on each. First, I present an overview of the literature on principal leadership that informed the study. Next, I review the literature on academic optimism and psychological capital (PsyCap), the concept that influenced the decision to use hope, resilience, and optimism as explanatory variables. Finally, each of those variables and view of intelligence, an additional explanatory variable selected for the study are discussed, and I explain why each was identified for the study.

School Leadership

More than 20 years ago, Bossert, Dwyer, Rowan and Lee (1982) pointed out that educational research continues to support the maxim, “effective principal, effective school.” School leaders play a significant role in creating an environment that encourages student achievement and school success (Bottery, 2001; Day et al., 2001; Fullan, 2002; Fultz, 2011; Leithwood & Jantzi, 2004). Erickson and Reller (1979) argue the principalship is one of the most critical positions in American education. In its 2011 report on school principal effectiveness, the Wallace Foundation notes that principal

leadership is among the most pressing matters on a list of public school issues, second only after teacher quality (2011). And although many factors contribute to turning around poor performing schools, successful leaders are the catalyst (Leithwood, Seashore-Louis, Anderson, & Walstrom, 2004). Principals also have a lot of power in schools, and Lezotte (1994) notes that they are often the decision makers for the allocation of funds, the meters of praise and sanctions, the puppet masters for student placement, powerful forces in new teacher induction, and champions of the school's mission and vision. The Wallace Foundation report on school leaders (2011) adds that a central part of the principal's role is cultivating leadership in others.

However, the literature concerning the school principalship yields little consistency regarding the nature of that role (Daresh, Gantner, Dunlap, and Hvizdak, 2000). Studies on effective leadership are filtered through the perspective one takes on the role of the principal. Beck and Murphy (1993) note that the increasing demands on principals make broad, metaphorical descriptions of their roles inaccurate. Daresh et al. (2000) find role definition is often problematic for the principals themselves, as their job descriptions are constantly evolving.

Numerous leadership frameworks and theories attempt to define effective leadership styles, behaviors, and dispositions. One avenue of research explores the principal as an instructional leader (Bredeson, 1985; Danley & Burch, 1978, Edmonds, 1979, Griffith, 1999, Hallinger & Murphy, 1986; Mackler, 1996). Another body of research examines the principal as the human resources manager (Blase and Kirby, 1992; Bossert, Dwyer, Rowan & Lee, 1982; Griffith, 1999; Lee, Dedrick, & Smith, 1991;

Tarter, Sabo and Hoy, 1995). More recently, educational research has begun to view the principal through the framework of transformational leadership, a leadership theory associated with the principal's role as the mediator (Engels, et. al., 2008).

Transformational leadership theory stresses the importance of the principal's inspirational role and influence on teachers' behaviors and attitudes (Griffith, 2003; Koh, Steers & Terborg, 1995). Transformational leaders must also be effective human capital managers. Odden (2011) and Kimball (2011) note that human capital management focuses on the continual transformation or improvement of staff. Other theories, including learning centered leadership, (Murphy et al. 2006) offer conceptual frameworks where a principal's experience, characteristics, values and knowledge all play a role in the behaviors that lead to student success.

The Wallace Foundation's (2011) recent report on school leaders offers a modern conception of the responsibilities principals face, which builds on the learning centered leadership model (Murphy et al., 2006) and helps to integrate the various lenses that have been used in the literature to study school leaders, including instructional supervision, human resource management, psychosocial characteristics, and leadership in context.

This report identifies five responsibilities of principals:

1. Shaping a vision of academic success for all students, one based on high standards.
2. Creating a climate hospitable to education in order that safety, a cooperative spirit and other foundations of fruitful interaction prevail

3. Cultivating leadership in others so that teachers and other adults assume their part in realizing the school vision
4. Improving instruction to enable teachers to teach at their best and students to learn at their utmost.
5. Managing people, data, and processes to foster school improvement (2011, p. 4)

Prior to this report and other recent studies on transformational leadership (Engels et al., 2008) and human capital management (Odden, 2001; Kimball, 2011), research on principal effectiveness has generally developed along two pathways: principal as instructional supervisor and principal as human resource manager. These pathways occur in leadership studies across disciplines as well, where leadership is either studied positionally as a manager, or as a social influence as an instructional supervisor (Helland & Winston, 2005).

The principal as instructional leader.

Some early work matches effective principals with a focus on school processes of instruction (Griffith, 1999), where the principal is a “master teacher” (Danley & Burch, 1978) and provides feedback and support to help other teachers improve. Specifically, an effective principal sets clear and high achievement goals, maintains an orderly school environment, encourages teachers to teach the basics, monitors student progress, and is immersed in day-to-day activities at the school (Edmonds, 1979).

Hallinger and Murphy (1986) also prescribe a strong task orientation for successful principals, where a principal’s focus is on the curriculum and instruction rather than

human relations and management. This emphasis on academic instruction continues to be the focal point for effective principals into the mid 1990s, when Weller, Buttery and Bland (1994) identify similar characteristics of the principal's role, including an emphasis on curriculum and achievement, a positive instructional environment and a focus on instructional improvement using achievement data. The Wallace Foundation (2011) report on school principals notes that our society's definitions of high expectations and rigor have changed as global economic forces require higher level thinking in all jobs, and we have begun to accept that we must close the achievement gap if we want to remain economically competitive. Therefore, a principal must set high expectations and foster a school climate that reflects the organization's value of achievement.

The Principal as Manager.

The path of research that explores the principal as a human resource manager asserts that effective principals should place a priority on managing human relations within the school building and reaching out to the parents and community (Griffith, 1999). In a review of the literature, Bossert, Dwyer, Rowan and Lee (1982) find effective principals are strong programmatic leaders, but also effective managers, who create consensus, maintain discipline, buffer classrooms from outside interference, allocate resources effectively, know community power structures, and maintain appropriate parent relations. Essentially, effective principals build a positive educational climate by fostering trusting relationships. The Wallace Foundation (2011) report supports this notion and notes that effective principals focus on building a sense of school community,

where every member of the community is respected, and the atmosphere is an “upbeat, welcoming, solution-oriented, no-blame, professional environment” (p. 6).

The importance of trust in organizations is well documented. Tarter, Sabo and Hoy (1995) stress the importance of interpersonal relations, and identify the main task of principals as fostering a supportive and trusting environment, where teachers are trusting and feel safe to take risks and develop positive professional relationships. The Wallace Foundation (2011) report supports this style of shared leadership and interpersonal relationships as keys to success. In order to build these relationships, principals must act as effective human resource managers and share decision-making, which results in higher teacher motivation and better work settings, which in turn, leads to better student achievement (Wallace Foundation, 2011).

Principal as transformational leader.

Recently, educational research has begun to view the principal through a framework of transformational leadership, a leadership theory associated with the principal’s role as the mediator (Engels, et. al., 2008). Transformational leadership theory stresses the importance of the principal’s inspirational role and influence on teachers’ behaviors and attitudes (Griffith, 2003; Koh, Steers & Terborg, 1995) Engel et al. (2008) find principals with achievement orientation, or “ambitious principals who prefer a challenging job, who feel responsible and want to deliver high quality,” are perceived as strong and supportive, and are successful when they devoted their energy to transforming school culture. Principals with strong internal local of control, where staff

support their leadership, are able to structure initiating leadership and professional cooperation within the school team (Engels et al, 2008).

Transformational leaders must manage human capital effectively. Odden (2011) and Kimball (2011) note that human capital management focuses on the continual transformation or improvement of staff. Transformational leaders strategically manage their staff and provide relevant professional development, effective teacher evaluations and recognition of success (Kimball, 2011; Hoy & Tarter, 2011).

The role of context in school leadership.

Although researchers over the past 40 years have not clearly defined the role of the principal (Daresh, Ganter, Dunlap, & Hvizdak, 2000), the importance of context has been explored, and many studies conclude that principals must find the style and structures most suited to their own local situation (Bossert et. al, 1982). Certain principal behaviors will have different effects in different organizational contexts (Bossert et. al, 1982). Keedy (1992) finds principals use instituted practices unilaterally to get their schools under control, and then use practices that build collegial relationships with teachers.

These findings underscore the importance of Bronfenbrenner's (1989) Ecological Systems Theory, which reminds us that development is contingent on the relationships within a social context, and the product of the integration of multiple systems. The school community is situated at the microsystem level, which means its culture has a profound impact on student development, as the most direct interactions with social agents such as parents, teachers and peers take place in the microsystem. Studying successful leaders and leadership styles occurs in this microsystem.

Principals have a direct effect on the microsystem, specifically a school's climate (Aelterman, Engels, Verhaeghe, Sys, Van Petegem, & Panagiotou, 2002) and play a key role in establishing the culture of a school and socializing, supervising, and supporting teachers, which in turn has a profound effect on the student's development, and the functioning and well-being of teachers (Aerlterman et al., 2002; Hallinger, 2003; Hallinger & Heck, 1996). The school culture the principal fosters also plays a significant role in enhancing school effectiveness and student learning (Fullan, 2001; Heck & Marcoulides, 1996; Sammons, Hillman & Mortimore, 1995). "Good" school culture is generally defined as one in which meaningful staff development and enhanced student learning are practiced (Engels, Hotton, Devos, Bouckenooghe, & Aelterman, 2008). Positive school culture is also associated with student achievement (Dimmock, 1993).

Psychosocial characteristics of effective school leaders.

In addition to examining principals through their roles and their contexts, many researchers seek to find leadership qualities or personality attributes of effective leaders. Schneider and Burton (2005) find leadership qualities should be prioritized over management and pedagogical abilities in determining effective principals. Human resource development and organizational leadership researchers also identify a number of personality traits or psychosocial characteristics of productive leaders across professions. After 9/11, a Positive Approach to Leadership (PAL) emerged (Helland & Winston, 2005). The PAL model is comprised of Realistic optimism, Intelligence with an emphasis on emotional intelligence, Confidence and Hope (RICH). Along with this theoretical perspective, Luthans and his colleagues developed psychological capital

(PsyCap), which contains hope, efficacy, optimism and resilience. Luthans and his colleagues define PsyCap as “an individual’s positive psychological state of development characterized by: 1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; 2) making a positive attribution (optimism) about succeeding now and in the future; 3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and 4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success (Luthans, Youssef, & Avolio, 2007, p.3) Research on PsyCap is offering promising results about the effect a leader’s hope, efficacy, optimism and resilience can have on employee attitudes, behaviors, and performance, especially in service industries where more social interactions that rely on emotional norms exists (Avey, Reichard, Luthans & Mhatre, 2011; Rafaeli & Sutton, 1987).

Academic Optimism

Hoy, Tarter, and Woolfolk Hoy (2006) identified the construct of academic optimism as a latent collective property of schools that was positively related to student achievement, even after controlling for SES and prior academic achievement. It grew out of the interplay among three theories: collective efficacy (Bandura, 1997), trust (Coleman, 1990), and academic emphasis as part of the organizational health of schools (Hoy, Tarter & Kottkamp, 1991; Goddard, Sweetland, & Hoy, 2000).

Academic optimism is rooted in positive psychology (Seligman & Csikszentmihalyi, 2000) and Bandura’s social cognitive and self-efficacy theories

(Bandura, 1986, 1997). The construct was initially an organizational one that contained collective efficacy, faculty trust in parents and students, and academic emphasis, which were found to be interrelated and to reinforce one another (Beard et al., 2010). Research on academic optimism's effect on student achievement has been consistently promising, because it consistently predicts student achievement, even after controlling for SES (Hoy, Tarter and Woolfolk Hoy, 2006; McGuigan & Hoy, 2006; Hoy & Smith, 2007).

Although academic optimism was originally intended to be examined as a collective construct in the context of the entire school, new research finds the construct pertains to an individual (Beard et. al, 2008; Beard, Hoy, & Woolfolk Hoy, 2010; Fahy et al, 2010; Woolfolk Hoy, Hoy, & Kurz, 2008). An attractive aspect of academic optimism is its association with general life optimism (Beard et. al, 2010), which can be fostered and taught (Seligman & Csikszentmihalyi, 2000). This means professional development, training and induction can aim to foster academic optimism in schools, which in turn can positively impact student achievement. Examining the components of academic optimism at the principal level identifies the principal as an active creator of the school context (Dwyer, Rowan & Lee, 1982) rather than a passive participant, as efficacy, trust and academic emphasis are all elements of a school climate that the principal controls, fosters, and builds (Aerlterman et at., 2002; Hallinger, 2003; Hallinger & Heck, 1996).

Academic optimism contains a combination of affective, behavioral and contextual components: self-efficacy, faculty trust in students and parents, and academic emphasis. Goddard, Hoy and Woolfolk (2000) note the work on self-efficacy grew from the Rand

Corporation's research on reading instruction and Bandura's work on self-efficacy. The Rand Corporation bases their definition on Rotter's internal locus of control, which conceptualized efficacy as how much a teacher considered student motivation and performance as a product of the teacher's actions (Goddard, Hoy & Woolfolk Hoy, 2000). Bandura's conception of teacher efficacy is much more personal, and the outcome of a cognitive process in which people construct beliefs about their capacity to perform at a given level of competence. Bandura's constructed beliefs affect how much effort people expend, how long they will persist in the face of difficulties, their resilience in dealing with failures, and the stress they experience in coping with demanding situations (Bandura, 1997). Bandura's conception of efficacy is comprised of a person's belief that they have the capability to do the job (self-efficacy), enough hope and optimism to persist, and enough resilience to deal with failures and stress of demanding situations. The more current research on teacher efficacy tends to follow Bandura's self-efficacy theories rather than locus of control theory, because perceived self-efficacy is a much stronger predictor of behavior than locus of control (Goddard et al., 2000).

Research links high levels of teacher self-efficacy to professional success, satisfaction (Lee, Dedrick, & Smith, 1991), and student success (Tschannen-Moran et al., 1998). Teachers with high levels of efficacy are more organized and better planned (Allinder, 1994). They are also more humanistic (Woolfolk & Hoy, 1990), student centered (Czerniak & Schriver, 1994; Enochs, Scharmann, & Riggs, 1995), and open (De Forest & Hughes, 1992). Teacher self-efficacy is also positively correlated with student

achievement. (Anderson, Greene, & Loewen, 1988; Midgley, Feldlaufer, & Eccles, 1989; Ross, 1992). Because these practices are generally accepted as educationally productive, Goddard, Hoy and Woolfolk (2004) note that many of these studies on efficacy can help explain the link between teacher efficacy and student achievement.

A principal's role as a transformational leader and human capital manager means principals strategically manage talent through recruitment and retention, a shared vision, relevant professional development that employs efficacy-building activities, effective teacher evaluations, data-driven decision-making, and recognition of success of a staff (Kimball, 2011; Hoy & Tarter, 2011). Bandura (1986, 1987) identifies four sources of self-efficacy: master teacher experience, vicarious experience, social persuasion, and emotional arousal. Goddard, Hoy, and Woolfolk Hoy (2000) postulate teacher's efficacy relies on both the analysis of the teaching task and assessment of teaching competence, paired with perceptions of group capability to successfully educate students, all products of the four sources of self-efficacy. A teacher's management beliefs (Woolfolk Hoy, Hoy & Kurtz, 2008), from custodial to humanistic, and teaching beliefs, from student-centered to curriculum-centered are significant predictors of their level of academic optimism. Because principals work with teachers on both their classroom management and their pedagogy and lesson plans, they have a large influence on these two beliefs, and therefore, a large impact on a teacher's level of efficacy.

Principals often work to help teachers reflect upon their own teaching experiences and regulate their emotional reactions to teaching. Examining the other two sources of

efficacy in the context of a principal's role as a transformational leader underscores why this construct might be useful in the study of successful supervision and leadership.

Goddard, Hoy and Woolfolk Hoy (2000), in regard to vicarious experience, assert that listening to each other's stories and modeling teaching strategies to each other builds both personal and collective efficacy. Supervision activities can also involve both story-telling and modeling, and therefore play a large role in building teacher and collective efficacy. Inversely, efficacy beliefs are lowered if a teacher perceives the performance a failure (Tschannen-Moran & Woolfolk Hoy, 2007), contributing to the expectation that future performances will also fail, so poor instructional leadership could have a detrimental effect on teachers.

Goddard, Hoy and Woolfolk Hoy (2000) define social persuasion, another building block of efficacy, as strengthening a faculty's conviction that together, they can be successful and build collective efficacy. Social persuasion happens at professional development workshops, during feedback about student achievement and professional talks, all elements principals often facilitate.

When academic optimism was first conceived as a building level concept, it contained collective efficacy as one of its components. Although this study aimed to define an individualistic construct, it is important to understand that collective efficacy is related to self-efficacy (Goddard & Goddard, 2001). Collective efficacy has an impact on a school's culture and can play a role in how school leaders socialize and supervise teachers (Tschannen-Moran, Woolfolk Hoy, and Hoy, 1998). Furthermore, research

identifies collective efficacy as the key variable in explaining student achievement, more influential than SES or academic emphasis (Goddard, Hoy & Hoy, 2004; Hoy, Sweetland & Smith, 2002), and the principal plays a role in its development.

Teacher efficacy is also strongly correlated to trust (Da Costa & Riordan, 1996), the second component of academic optimism. Faculty trust includes trusting parents and students as one concept, which is supported by the research (Goddard, Tschannen-Moran, & Hoy, 2001; Hoy & Tschannen-Moran, 1999). Trust in regard to academic optimism is defined as a “willingness to be vulnerable to another party based on the confidence that the party is benevolent, reliable, competent, honest, and open” (Hoy, Tarter and Woolfolk Hoy, 2006, p. 429). Trust is also an important component to consider with Principal Academic Optimism, because faculty trust in the principal, where “the faculty has confidence that the principal will keep his/her word and act in the best interests of the teachers” (Hoy, 2011, p. 4) is positively related to teacher trust in the school organization and colleagues, principal authenticity, school climate, and principal transformational leadership (Forsyth, Adams, & Hoy, 2011). High levels of trust are associated with student achievement (Hoy, 2002), and Hoy attributes this relationship to the cooperative nature of learning, and the fact that cooperation requires a degree of trust.

Forsyth, Adams, and Hoy (2011) note that although faculty trust in the principal was not directly related to school effectiveness, it was indirectly related, as “supportive leadership led to collegiality among teachers and to faculty trust in the principal...Collegiality of teachers and teacher trust in the principal affected faculty trust

in colleagues, which in turn produced school effectiveness” (p.11). Hoy, Tarter and Woolfolk Hoy (2006) also note schools with highly trusting teachers often have more vicarious learning happening, which in turn builds efficacy. High levels of teacher efficacy are correlated with aspects of a healthy school climate: institutional integrity; principal influence; consideration; re-source support; morale; and academic emphasis (Hoy & Woolfolk Hoy,1993).

The third component of academic optimism, academic emphasis, is interrelated with the others. Academic emphasis is a press for academic achievement, where teachers set high, but attainable goals for students, maintain an orderly and serious learning environment, and where students are motivated and respect academic achievement (Hoy & Miskel, 2005; Hoy, Tarter, & Kottkamp, 1991; Hoy, Tarter, and Woolfolk Hoy, 2006). Academic emphasis is a strong predictor of achievement after controlling for SES throughout all levels of schooling (Goddard, Sweetland, & Hoy, 2000; Hoy and Hannum, 1997; Hoy & Sabo, 2008; Hoy, Tarter & Bliss, 1990). It is related to other components of academic optimism because academic emphasis is strongest when collective efficacy is high (Hoy et al., 2006).

Initially, academic optimism was chosen to study in the context of effective principals, because its components are affective, behavioral and cognitive, and academic optimism might have offered a more complete picture of the beliefs, actions and thoughts of effective principals. Also, because of the positive association between its components and student achievement, and because educational leaders are often evaluated based on

school effectiveness, finding a construct that encompasses the components of academic optimism could provide a useful foundation for future research that studies effective principals in successful schools.

The explanatory variables

Psychological Capital (PsyCap) and the selection of the predictor variables.

In addition to exploring academic optimism's components at the principal level, this study also intended to explore the relationships between those components and hope, resilience, and general life optimism, which are all characteristics identified as significant in the leadership literature. Because principals' work in educational settings, view of intelligence was also considered.

Resilience, hope, optimism and efficacy are identified as "states" of Positive Organizational Behavior (POB) (Luthans, 2002, 2003). In order to be included in positive organizational behavior studies, those states, or characteristics, have to meet three criteria. They must be grounded in theory; a characteristic that can be developed and managed, and measurable with a valid instrument. Currently, hope, optimism, resiliency and efficacy meet these criteria for inclusion as positive organizational behaviors (Luthans, 2002). The four POB states combine to form positive psychological capital, or PsyCap (Luthans, 2002; Luthans & Youssef, 2004). PsyCap's similarities to academic optimism led to the selection of hope, optimism and resiliency as predictor variables for principal academic optimism. Efficacy is shared in both PsyCap and academic optimism constructs.

PsyCap, like academic optimism, grows out of research on positive psychology, and has been demonstrated conceptually and empirically (Luthans, Youssef, & Avolio, 2007; Stajkovic, 2006) to be a second-order construct, which means it is the product of the shared variance of its four components (Avey, Reichard, Luthans, & Mhatre, 2011). In other words, hope, resilience, optimism and efficacy overlap and form a multidimensional construct (Law, Wong, and Mobley, 1998). Metanalyses on PsyCap's individual components show they are desirable in an organization (Lopez & Snyder, 2009 and Stajkovic & Luthans, 1998). The early work around PsyCap reveals it is positively related to generally recognized desirable employee behaviors, such as organizational citizenship behaviors and increased motivation to perform better and try harder (Avey et al., 2011). Avey et al. report, "Individuals higher in PsyCap are likely to be energized and put forth effort that is manifested in higher performance over extended periods of time. This is because those higher in efficacy apply effort toward goals they personally believe they are capable of achieving. Further, they have willpower and generate multiple solutions to problems (hope) , make internal attributions and have positive expectations about results (optimism), and respond positively and persevere in the face of adversity and setbacks (resilience)" (p. 135).

Academic optimism contains efficacy as one of its components and is positively associated with general life optimism. To explore the other components of PsyCap, resilience and hope were also considered. In order to contextualize the leadership model to school leaders, this study also drew on the research of trust in schools and considered

how principals' views of intelligence might affect the factors that emerge from the academic optimism scale for principals.

Hope.

Hope is a common process in leadership (Shorey & Snyder, 2004) and hope begets hope (Helland & Winston, 2005). Snyder (2000) conceptualizes hope as a cognitive process with three components: goals, agency, and pathways. Hope Theory, introduced by Snyder, Lopez, Sharey, Rand and Feldman (2003), says hope affects individuals' perceptions with respect to their capacities to conceptualize goals clearly, develop specific strategies to reach their goals, and to initiate and sustain motivation for using their strategies (Snyder, Irving & Anderson, 2003). Although a leader's ability to build hope is widely recognized as an important aspect of effective leadership (Luthans & Avolio, 2003), prior to the development of hope theory in positive psychology, no clear metrics existed to measure hope, and it was generally considered an emotion rather than a behavior (Helland & Winston, 2005). Hope theory examines hope as a "dynamic, powerful, and pervasive cognitive process that is observable across numerous contexts including that of formal organizations" (Helland & Winston, 2005, p. 42).

In the context of organizational leadership, hope is defined as a positive motivational state that contributes to leaders and followers expending the requisite energy necessary to pursue and attain organizational goals (Helland & Winston, 2005). As explained in a review of hope literature, Helland and Winston (2005) note that organizational research includes: hope as a factor in human and social capital management, called psychological capital (PsyCap)(Luthans & Youseef, 2004); the role

of hope in sustaining innovation during major changes (Ludema, Wilmot, & Strivastva, 1997); the impact of high hope human resources of profits, retention rates, follower satisfaction and commitment (Adams et al, 2003; Luthans & Jensen, 2003); the differences of hope levels of stress, job satisfaction, commitment and performance (Kirk & Koeske, 1995); and the development of positive organizational hope and its impact on organization citizenship behaviors (White-Zappa, 2001). Shorey and Snyder (2004) have also begun applying hope theory to concepts of organizational leadership.

Positive psychology recognizes hope as not only emotion, but thinking as well (Snyder, 2002). Hope is influenced by circumstances, and a trait that is learned (Helland & Winston, 2005), which is why it could be an important variable to study in relation to principals. Since hope can be learned and is a positive characteristic for principals, it can inform professional development for educational leaders. A number of studies confirm hope as a measurable phenomenon (Snyder, 1994a, 1994b; Snyder, Irving & Anderson, 1991; Snyder, Harris, et al., 1991; Snyder, Sympson, et al., 1996) and link it with positive personal variables. Hopeful thinking is related to self-esteem and confidence (Snyder et al., 1997). It is also linked to academic achievement (Curry, Synder, cook, Ruby & Rehm, 1997).

Hope is also distinct from other constructs, such as optimism and self-efficacy (Snyder, 2002; Luthans, 2002; Peterson & Luthans, 2003). It differs from optimism because goal theory goes beyond perceptions and focuses on the interconnection of agency and pathways thinking in setting goals to attain a positive future outcome (Helland & Winston, 2005). Optimism captures the perceived ability one has about

reaching their goals (Carver & Scheier, 1999). Hope theory differs from self-efficacy, because it includes a person's motivation to act and the willpower to pursue one's goals. Efficacy theory focuses on a person's confidence that they have the ability to attain the outcome, but not their motivation to act (Bandura, 1977).

Hope is inextricably intertwined with effective leadership. Ludema et. al, (1997) reveal four enduring qualities of hope. "It is born in relationship; inspired by the conviction that the future is open and can be influenced; sustained by dialogue about high human ideals; and generative of positive action" (p. 9). These are also qualities of effective leadership (Helland & Winston, 2005). Helland & Winston (2005) propose "effective leadership, it would seem, awakens hopeful thinking" (p. 45). They conclude that hopeful leaders instill hope in their followers, and that hope fosters an investment in exerting the energy necessary to complete the tasks leading to organizational goals (p.48).

Helland & Winston (2005) call for future research to design studies that are theory based and seek to understand the significance of hopeful thinking for leaders and followers in applied settings. This study sought to explore how hope is related to the factors of academic optimism at the principal level.

Resilience.

Resilience research mostly resides in the literature about child psychopathology, which focuses on mental illness, duress, or maladaptive behaviors. Only recently has it found applications in the organizational and leadership literature (Norman, Luthans & Luthans, 2005). Resilience research began over forty years ago when Norman Garmezy identified resilience as a key ingredient for success among healthy children of

schizophrenics (Coutu, 2002). Other studies look at Holocaust survivors to help understand what resilience looks like, and Vanderpol describes it as a “plastic shield” (in Coutu, 2002, p. 47). Research on resilience began as research on risk, and generally contained the following characteristics: longitudinal designs that made possible prospective rather than retrospective descriptions of the emergence of risk and successful coping with risk; simultaneous evaluation of multiple sources of psychosocial risk and protective factors that allowed for examination of interrelationships among these factors; and delineation of distinct adult indicators of adult adaptation that made it possible to link longitudinal risk and resilience data to outcomes that were both meaningful and important (Doll & Lyon, 1998). Many studies examine resilience in relation to patterns of positive adaptation of individuals facing risks that can potentially harm development (Masten et. al, 2008).

A number of similar definitions of resilience exist in the literature, focused on resilience as a quality possessed by individuals that look for learning opportunities from problems. Coutu, after a review of the literature, concludes resilience generally contains three characteristics: a staunch acceptance of reality, but with an optimistic outlook; a deep belief, often supported by strongly held values; and the ability to make do with whatever is at hand (Coutu, 2002). Richardson (in Harland, Harrison, Jones and Reiter-Palmon, 2005), defines resilience as “growth or adaptation through disruption rather than just to recover or bounce back” (2002, p. 313). Lengnick-Hall and Beck describe, “resilience includes the ability to turn challenges into opportunities” (in Harland et. al, 2005; 2003, p. 8). They add it is “More than bouncing back from the edge of

catastrophe...to move forward with even greater vigor and success than before (in Harland et al., 2005; 2003, p.4). Sutcliffe and Vogus (2003) state, “resilience is the capacity to rebound from adversity strengthened and more resourceful (in Harland et al, 2005, p. 97).

One particularly noteworthy study on resilience took place in Hawaii over a 24 year period. Researchers set out to isolate factors that would predict developmental disabilities, and their participants were primarily non-white and of middle to lower socioeconomic status (Werner, 1982). Werner followed up with the resilient subsample who did not succumb to the risk factors studied and found those subjects appeared to be protected from poor outcomes by combinations of individual characteristics, such as intellectual ability, easy temperament, social competence, and aspirations, as well as family and community characteristics, such as warm, consistent relationships with caregivers (Werner, 1989). Other longitudinal studies find resilient people tend to have received effective and kind parenting (Kolvin et al, 1998; Elder, Caspi, & Van Nguyen, 1986). Long and Vaillant (1984), in their Boston Underclass Study, find boyhood measures of industriousness, or engagement in school, community and athletic activities led to more resilience. Rutter and his colleagues (Rutter, Cox, Tupling, Verger, & Yule, 1975) also focus on resilience in their studies of inner-city London and the Isle of Wight, and they report that in addition to a number of personal and family characteristics, community factors such as good extra-familial support of teachers and other adults at the school leads to higher resilience.

New organizational research on resilience seeks to extend the research on individual resilience to understand how organizations and their members successfully adapt in the face of adversity (Sutcliffe & Vogus, 2003). Doll and Lyon (1998) note resilience is generally studied as one pole of a continuum between succumbing to adversity (risk), and overcoming adversity (resilience). Harland, Harrison, Jones and Reiter-Palmon (2005) define resilience as how people respond to workplace setbacks. Sutcliffe and Vogus (2003) add that resilient people rebound from adversity strengthened and more resourceful. From an organizational standpoint, resilience can be studied as a state of Positive Organizational Behavior (POS) (Luthans, 2002, 2003). Three criteria determine if resilience and the other states warrant inclusion in the list of positive organizational behaviors: the construct is grounded in theory, can be managed and developed, and can be measured with a valid instrument. Currently, hope, optimism, resiliency and efficacy meet these criteria for inclusion as positive organizational behaviors (Luthans, 2002).

From a school organizational standpoint, Hoy and Tarter (2011) explain resilience as “a school that responds to something going wrong by marshalling its resources and bringing to bear the requisite expertise and organizational processes to deal constructively with the problem, turn problems into opportunities” (p. 438). Many studies implicate the school context as a system where resilience can be promoted and facilitated (Masten et al, 1998). In studies of resilience, schools are often identified as protective influences when they provide warm relationships, a supportive climate, high

expectations, and an orderly structure with consistent rules and discipline (Condly, 2006; Luthar, 2006; Masten et al., 1990; Rutter & Maughan, 2002; Wang & Gordon, 1994).

Organizational research on resilience reveals important findings about the school's role in building resilient students and teachers. The Search Institute found that resilient youth can secure help from adults and often have arithmetic abilities that attract others to them (in Coutu, 2002). Resilient youth are also less victimized by bullying (Donnon, 2010). Resilience is also an important characteristic for teachers, as VITAE research (Variations in Teachers' Work, Lives and Effectiveness) in England reports that teachers' resilience and quality is affected by the combination of personal, situated and policy-related circumstances (Day & Gu, 2008). Day and Gu (2008) note that principals are highly influential in building a resilient school culture and sustaining their teachers' commitment, resilience and effectiveness in the profession. Lugg and Boyd (1993) also point out that current US education reform is targeting systems and calling for collaborative leadership, so the school leaders are being asked to be more resilient. Administrators are expected to collaborate with social agencies to address the realities of at-risk students and implement creative strategies to help them (Lugg & Boyd, 1993).

Research on school culture continues to underscore the importance of the school environment in building students' resilience (Nockolite & Doll, 2008). Nickolite and Doll note that research validates Bronfenbrenner's ecological model (2005) in relation to developmental resilience (Doll & Lyon, 1998; Werner, 2005), and longitudinal studies of resilience repeatedly demonstrate that a significant amount of variance in children's socioemotional well-being and school success can be predicted by the quality of their

schools (Masten & Coatsworth, 1998). Masten (2003) illustrates interrelated and embedded systems for a child's life in relation to family, peer, and school systems, and the larger systems connected to children through schools or school personnel. Masten et al, (1998) note that schools play a central role in developing resilience in students, and schools that function well in a context of adversity can also be said to manifest resilience. Doll and Lyon (1998) remark that new research on resilience aimed at understanding the mechanisms and processes of resilience could lead to programming to foster it.

Nockolite and Doll (2008) report that interventions to build resilience need to take place in the circles of Bronfenbrenner's model and not at the center. In other words, they need to be systemic rather than individual interventions, and the principal is a key figure impacting the system. The resilience of adults who work in schools is important because these individuals contribute to school resilience and also play key roles in the ecological systems model (Mastens et al., 1998). Currently, the United States military is employing a resilience training program, called Comprehensive Soldier Fitness, which contains three components: psychological fitness tests, self-improvement courses, and master resilience training based on PERMA (positive emotion, engagement, relationships, meaning and accomplishment), which are the building blocks of resilience and growth (Seligman, 2011).

Harland et. al (2005) note that empirical research linking leadership with resilience has not yet been conducted. However, Luthans and Avolio (2003) assert that developing a capacity for resilience is key to authentic leadership development. Sutcliffe and Vogus (2003) also propose that organizations can become more effective by developing

resilience. Sutcliffe and Vogus (2003) call for the study of resilience in organizations and leadership and assert, “it is worthy of scholarly attentions it can provide insight into the etiology and course of positive adjustment or adaptability under challenging conditions” (p. 99). Regarding the military’s MRT program, Seligman notes, “Enhancing mental toughness, highlighting and honing strengths, and fostering strong relationships are core competencies for any successful manager.” (2011, p. 106). He expects the outcome of the military’s MRT study to offer conclusive evidence that resilience training can make adults in large organizations more effective.

Harland et. al (2005) recognize there is also indirect support for the notion that leadership is related to subordinate resilience in studies on subordinate reactions to stress. Bass’ (1990) literature review on the relationship between transformational leadership and subordinate reactions to stress reveals that transformational leaders convert crises into developmental challenges by presenting them as challenges and providing the intellectual stimulation to subordinates to resolve those challenges. Transformational leaders exhibit the following behaviors: attributed charisma, idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Each of these behaviors can be tied to the development of resilience (Harland et. al, 2005). For example, transformational leaders reduce panic and feelings of helplessness and instill a sense of security and belonging (Bass, 1990). Harland et. al (2005) note the plausibility that reducing panic and instilling security and belonging will lead to resilience, because they would engender approach-coping behaviors. Transformational leaders also transcend their own self-interests and shift goals toward achievement and self-actualization (Bass,

1990). This focus also engenders resilience (Harland et. al, 2005). Bass (1990) also notes that transformational leaders are optimistic and serve as role models for using new and innovative approaches, which is a central component to resilience. Harland et. al (2005) contend that the correlations between the transformational leadership dimensions and satisfaction and effectiveness (Dumdum et. al, 2002) are consistent with subordinate resilience. By definition, resilient people emerge from challenging situations stronger and more able to face the next challenge. Just as hope begets hope (Helland & Winston, 2005), it appears resilience begets resilience.

General life optimism.

General life optimism is linked to positive moods, achievement, popularity, perseverance, effective problem solving, good health and morale, and achievement (Beard, 2009). Originally linked to socially desirable outcomes (Peterson, 2000), optimism is now linked with one's positive expectation for the future, even in difficult situations (Carver & Scheier, 2002). It is often studied in the context of expectancy-value theories, which assume behavior reflects a pursuit of goals, with the most important goals being the most valuable (Carver & Scheier, 1998). Optimists face hurdles with confidence and believe they can attain their goals (Carver et. al, 2010). Peterson and Chang (2003) note optimism exists as an inherent feature of all humans: and, as a personal disposition, optimism refers to the tendency to believe that one will generally experience good outcomes in life and avoid bad (Beard, 2009). Optimism also consistently predicts resilience (in Harland Peterson, 2000; Ryan & Deci, 2000).

Seligman, often called the father of positive psychology, came to study optimism after years of studying failure and learned helplessness (Seligman, 2011). Seligman and his colleagues conducted numerous studies where they confirm conditions that lead to learned helplessness, but they find that nearly 30 percent of the subjects in a group that received the treatment aimed at creating learned helplessness never lose hope and continue to persevere in the face of expected failure. He attributes this continued effort to optimism, a person's habit of interpreting setbacks as temporary, local and changeable (Seligman, 2011). Optimism is inversely related to hopelessness (Alloy et. al., 2006) and appears to lead to resilience after stressful life events (Carver et. al, 2010). Carver et. al, (2010) note that optimism clusters with other factors such as socioeconomic status and social integration.

Optimists tend to work harder in their relationships (Carver et. al, 2010), and because the effective principal must manage many relationships with staff, students, parents, and community members, optimism could be an important variable to study in the context of the principalship. The Wallace Foundation report (2011) on school leadership notes that the principal remains the central source of leadership influence and has a responsibility to cultivate a cooperative spirit, encourage shared leadership, and improve the instructional setting for teachers. These tasks require positive relationships and the report notes that leadership teams are essential, especially in urban settings.

Carver et. al (2010) report optimism predicts perceptions of greater supportiveness from a partner, which predicts more engagement in conflict discussion, which also predicts better conflict resolution. Other studies find optimists have better

relationship quality, with less negative interaction and higher levels of cooperative problem solving (Assad, Donnellan, & Conger, 2007). Furthermore, Segerstrom and Solberg Nes (2006) find optimists are better at balancing expectancy, cost, and value of goal pursuit, and they are more committed to mutually demanding goals and able to manage the conflict. They are also more likely to back away from unrealistic tasks earlier than pessimists and turn toward realistic goals. These outcomes are very similar to the qualities described in transformational leadership, and thus important qualities for principals who want to be motivational, supportive and cooperative with faculty.

General life optimism is an important variable to study in relation to leadership, because it can be taught and can have positive effects on subordinates. Without any treatment or significant life changes, optimism is a very stable trait, and Carver et. al (2010) note that test-retest reliability correlations are high, ranging from .58-.79 over varying periods of time. They note that this stability can be attributed to the stability of the sources of optimism, including childhood environment, the presence of resources such as parental warmth and financial security (Carver et. al, 2010). However, Carver et. al. (2010) find that increasing social resources leads to a positive change in optimism. Also, Seligman (2011) notes teaching teachers to adopt an optimistic outlook reduces depression and anxiety in their students (Seligman, 2011). Cognitive behavioral therapy techniques, where people are led to reprogram their negative thought patterns and increase their constructive thoughts and actions, appear to be a useful way to build optimism (Carver et. al, 2010; Seligman, Schulman, DeRubeis, & Hollon, 1999;

Seligman, Schulman, & Tryon, 2007). Optimism's relationship to leadership could help redefine principal mentoring programs to have a greater focus on developing optimism.

Views of intelligence.

Hope, resilience and optimism are studied in leadership literature across a number of professions. However, because education literature stresses the importance of academic emphasis, high expectations, and rigor to student success (Goddard, Sweetland, and Hoy, 2000; Hoy & Hannum, 1997; Hoy & Sabo, 2008; Hoy, Tarter & Bliss, 1990; Wallace, 2012;), and because closing the achievement gap has become one of the top priorities of America's principals (Wallace, 2012), a principal's view of intelligence as fixed or malleable was included in this study to see how it relates to the other leadership factors and the components of academic optimism at the principal level.

Two opposing theories of intelligence exist (Dweck, 1999; Dweck & Leggett, 1988). One theory, entity theory, believes intelligence is fixed. The other theory is incremental, often called malleable or growth mindset, and it holds that intelligence changes over time. The theory one holds has an effect on the goals they set and how they perceive failure (Burns & Isbell, 2007), which means a principal's view of intelligence can have an effect on the academic goals and vision s/he sets. People with incremental views of intelligence see failure as a challenge to overcome. People with fixed views of intelligence see failure as a reflection of a lack of intelligence (Burns & Isbell, 2007). Also people who believe intelligence is fixed are driven to document their competence through credentials, grades or other external rewards, while those holding an incremental

view focus on developing their competency (Stroscher, 1997). Incremental theorists tend to respond more adaptively because they believe more effort can improve future performance (Burns & Isbell, 2007), and students with incremental beliefs about intelligence have higher grade point averages and enjoy academics more (Aronson, Fried, & Good, 2002). They also focus more on learning goals over performance goals (Dweck & Leggett, 1988). They believe effort is worthy for overcoming low ability or a difficult task (Hong, Chiu, Dweck, Lin, & Wan, 1999), and they tend to employ strategies to reach mastery instead of strategies to withdraw from the task (Henderson & Dweck, 1990; Robines & Pals, 2002).

Some studies seek to measure the effect one's view of intelligence has on motivation and achievement. The researchers "prime" participants by giving them information that supports one view or the other and then giving them a difficult task. Priming students with a malleable view of intelligence increases their motivation and achievement (Blackwell, Trzesniewski & Dweck, 2007). In high school students, a malleable view predicts an upward trajectory in math achievement, while a fixed view predicts a flat trajectory (Blackwell, Trzesniewski, & Dweck, 2007). In another study using math assessments, adult participants with incremental beliefs attempt more problems than those with fixed intelligence mindsets (Burns & Isbell, 2005). People with an entity view of intelligence who encounter negative feedback often respond negatively (Dweck, 1999; Hong et al, 1999). However, in some cases people who view intelligence as fixed can increase achievement if individuals are confident of their high skill level

(Dweck, Chiu, & Hong, 1995). For example, when participants perceive they have high ability and clear performance goals, they do not show a helpless response when they fail at the task. In fact, they use better strategies and different problem solving techniques to succeed (Elliott & Dweck, 1988). Conversely, participants with a view of intelligence as fixed and with low skill levels tend to show typical helpless responses after a failure (Elliott & Dweck, 1988). Therefore, trying to change one's view of intelligence as fixed to malleable as a way to improve performance is not necessary for individuals who are highly skilled in the task at hand (Burns & Isbell, 2007).

Malleability interventions in the academic domain can be useful (Aronson et al., 2002; Good et al., 2003), and considering a view of intelligence is especially important when studying educators, because although we can temporarily manipulate one's view of intelligence, implicit theories of intelligence are thought to be relatively stable (Burns & Isbell, 2007). Highly skilled educators may perform well, despite holding an entity view of intelligence, but educators who need improvement can benefit from a leader who primes them with a malleable view of intelligence (Dweck et al, 1995). Interestingly, more experienced teachers tend to believe intelligence is stable, while pre-service and novice teachers tend to view intelligence as modifiable (Stroscher, 1997; Lynott & Woolfolk, 1994). Teachers also tend to define intelligence differently as children age, with social and verbal skills as the most salient indicators of intelligence in young children and reasoning and cognitive skills most salient in older children (Fry, 1984). Teachers' preferences for educational goals are related to their implicit beliefs about

intelligence as well, and teachers who value practical skills as indicators of intelligence tend to also believe intelligence is modifiable (Lynott & Woolfolk, 1994). Furthermore, teachers who believe intelligence is malleable have higher levels of efficacy for student engagement (Stroscher, 1997).

Although people tend to endorse either an entity or incremental view of intelligence, they are capable of understanding and holding both views of intelligence simultaneously (Burns & Isbell, 2007). Furthermore, implicit theories of intelligence tend to be domain-specific (Dweck, Hone & Chiu, 1993; Dweck et. al, 1995), so teachers may believe one's content knowledge is fixed, but intelligence as a whole is malleable. A leader who endorses and promotes an incremental view of intelligence can lead subordinates to act in a similar manner (Burns & Isbell, 2007). Individuals who are primed with a malleable view of intelligence are more likely to work on a remedial task after failure than those primed with a fixed view. They also experience a reduction in test anxiety (Burns & Isbell, 2005).

This finding suggests educational leaders can impact the view of intelligence held by staff and students and help reduce anxiety that new performance assessments and other evaluations might have on teachers or high stakes state testing might have on students. This is especially important with students from low socioeconomic backgrounds, as they tend to hold entity theories of intelligence (Faria & Fontaine, 1997), which often leads them to give up in the face of adversity. Also, girls from lower socioeconomic status tend to endorse a static view of intelligence and display helplessness

(Licht et. al., 1984; Licht & Sweck, 1984). Teachers' views of intelligence could have a big impact on practice, as teachers who consider intelligence as fixed may believe teacher interventions have little influence on competence and feel less able to influence student learning, thus compounding and reinforcing a student's view of intelligence as fixed. As early as 1974, Brophy and Good connect teacher practice to their view of IQ scores with a similar logic. They state: "Teachers who believe that IQ or achievement data represent accurate and unchanging characteristic of the student are likely to adapt their teaching to what they believe the student can handle and are unlikely to experiment with methods to get him/her to do better, on the grounds that such attempts would be fruitless. In contrast, teachers who see IQ and achievement tests as indications of the student's present performance, which are subject to change, rather than as measures of permanent characteristics, are more likely to experiment with different methods and to persist in trying to get students to master the material" (p. 124). This reality has a profound impact on academic emphasis in schools, as academic emphasis encompasses behaviors that set high standards and promote learning for all students.

Stroscher's study of teacher views of intelligence reveals that a majority of educators (73%) favor an incremental view of intelligence, although disaggregating the data show that pre-service teachers and novice teachers are much more likely to hold an incremental view of intelligence over experienced practicing teachers. This study explored how a principal's view of intelligence relates to factors that emerge from a

principal academic optimism scale, the components of psychological capital, and the context in which a principal works.

Summary

In this chapter, literature reviews for the major concepts of the study and the explanatory variables were presented. I further developed my rationale for the following research questions and explained how the predictor variables are related to leadership literature and to academic optimism.

This study explored three questions:

1. How do the components of academic optimism translate to the principal level?
2. How does a principal's view of intelligence, general life optimism, resilience or hope explain the variance in factors emerging from the principal academic optimism scale?
3. How do contextual variables, such as school type as rural, urban or suburban; principal years of experience; percentage of students on free and reduced lunch; and size of student body explain the variance in factors emerging from the principal academic optimism scale?

CHAPTER 3

METHODOLOGY

This chapter provides an explanation of the methodology used to answer the research questions. The sample, data collection procedures, and research survey instrumentation are discussed within, and an explanation of the descriptive statistics of the sample and the statistical methods used to analyze the data is provided.

The Research Questions

This exploratory study was driven by three research questions:

1. How do the components of academic optimism translate to the principal level?
2. How does a principal's view of intelligence, general life optimism, resilience or hope explain the variance in factors emerging from the principal academic optimism scale?
3. How do contextual variables, such as school type as rural, urban or suburban; principal years of experience; percentage of students on free and reduced lunch; and size of student body explain the variance in factors emerging from the principal academic optimism scale?

This study was performed with approval from The Ohio State University's Behavioral and Social Sciences Institutional Review Board (2011B0399, October, 2011).

Sample

The initial sample for this study consisted of 111 elementary school principals from Ohio. Demographic information about the principal, including years of experience (PEXP), type of school as suburban, rural or urban (DTYPE), size of school (DSIZE), and percentage of free and reduced lunch (FRL) was collected to capture data about the principal's context. Principals self-selected their demographic information from categorical lists. (See Table 3.1)

| Years of experience as a principal (PEXP) | | |
|---|---------------|-----------------|
| | Number | % Sample |
| 0-5 | 29 | 26.1 |
| 6-10 | 32 | 28.8 |
| >10 | 50 | 45.0 |
| Type of District (DTYPE) | | |
| | Number | % Sample |
| Rural | 49 | 44.1 |
| Urban | 6 | 5.4 |
| Suburban | 56 | 50.5 |
| Size of School (SIZE) | | |
| | Number | % Sample |
| 0-250 | 4 | 3.6 |
| 251-500 | 61 | 55 |
| >500 | 46 | 41.4 |
| Percentage of students on free and reduced lunches | | |
| | Number | % Sample |
| <10 | 20 | 18 |
| 11-25 | 20 | 18 |
| 26-50 | 43 | 38.7 |
| 51-75 | 21 | 18.9 |
| >75 | 7 | 6.3 |

Table 3.1: Sample Profiles for Principals from the Initial Sample

In order to prevent the halo effect, where the judgments of one rated characteristic influences judgments of other characteristics (McDonald, 1999, p. 24; Bechger, Maris, & Hsiao, 2010), the study involved two surveys administered at different times. After the

initial survey, which collected the demographic data and included the academic optimism scale for principals, 95 principals continued in the study and completed the second survey, which contained measures for hope, resilience, optimism and view of intelligence. The 16 principals who did not complete both surveys were emailed once with a friendly reminder and a second time with a request to complete the second survey before a deadline. None of those principals emailed to say they were not interested in continuing in the study, so I believe they got busy and forgot to complete the second survey in time. See Table 3.2.

| | Years of experience as a principal (PEXP) | | | |
|----------|---|-----------------|-----------------|-----------------|
| | Survey 1 | % Sample | Survey 2 | % Sample |
| 0-5 | 29 | 26.1 | 27 | 28.4 |
| 6-10 | 32 | 28.8 | 28 | 29.5 |
| >10 | 50 | 45.0 | 40 | 42.1 |
| | Type of District (DTYPE) | | | |
| | Survey 1 | % Sample | Survey 2 | % Sample |
| Rural | 49 | 44.1 | 45 | 47.4 |
| Urban | 6 | 5.4 | 4 | 4.2 |
| Suburban | 56 | 50.5 | 46 | 48.4 |
| | Size of School (SIZE) | | | |
| | Survey 1 | % Sample | Survey 2 | % Sample |
| 0-250 | 4 | 3.6 | 4 | 3.6 |
| 251-500 | 61 | 55 | 51 | 53.7 |
| >500 | 46 | 41.4 | 40 | 42.1 |
| | Percentage of students on free and reduced lunches | | | |
| | Survey 1 | % Sample | Survey 2 | % Sample |
| <10 | 20 | 18 | 17 | 17.9 |
| 11-25 | 20 | 18 | 16 | 16.8 |
| 26-50 | 43 | 38.7 | 35 | 36.8 |
| 51-75 | 21 | 18.9 | 21 | 18.9 |
| >75 | 7 | 6.3 | 6 | 6.3 |

Table 3.2: Sample Profiles for Principals Completing First and Second Surveys

Data collection methods

Participants were solicited through email. A number of recruiting events attempted to solicit participation from every principal from the state. The Ohio Association of Elementary School Administrators forwarded the solicitation email to their entire membership, approximately 1600 principals. The Ohio Department of Education reports that as of May, 2012, 1893 elementary principals are working in the state. To try to capture the additional group of principals and to recruit principals who might have failed to read the forwarded email, I consulted a comprehensive list of school districts in Ohio. In an attempt to reach the entire population, superintendents and elementary principals with direct emails provided on their district websites were contacted. In addition, I contacted colleagues in my professional network and asked them to forward the recruitment email to the elementary principals in their districts. My response rate was 5.8%.

Elementary school principals in Ohio who agreed to participate were asked to complete two separate surveys that were administered via SurveyGizmo and approximately four weeks apart. The first survey began with an informed consent, where potential participants learned their surveys would not be connected to their districts in any way, and that the data would be de-identified once I matched their two surveys. Once principals consented to participate, they were taken to the first survey, where they supplied demographic information about the district's size, type, free and reduced lunch percentage and their years of experience. The first survey asked a series of questions to gauge the principal's sense of efficacy, level of trust in the students and parents, and the

academic emphasis of their school. The survey required each question be answered in order to move to the next question, so the data contained no missing values.

Individual's data was kept in a password protected file. Once the sample completed the first survey and preliminary results were examined, the participants received an email asking them to complete the second and final survey.

Ninety-five of the original 111 participants remained in the study and completed the second survey, which used pre-existing measures to determine scores for hope, resilience, view of intelligence and general life optimism. Original data was kept in a password-protected computer file until the second survey results were connected to the initial survey data. After the second survey, I manually combined the results by matching the emails. Once the data was combined, the email addresses and all other identifying information was permanently deleted, so disclosure of the participant responses could not reasonably place them at risk, liability, or damage to their financial standing, employability or reputation. No questions on either instrument were sensitive or asked for information that would be specific enough to identify the test taker or expose anything illegal or anything that would impact the person's employment, position or reputation.

Measures

Survey 1: Principal Academic Optimism Scale.

In order to create the questions for the first survey, which was designed to measure the components of academic optimism at the principal level, I built off the elementary and secondary teacher academic optimism scales, which have been tested for both

reliability and validity (Hoy, Tarter, Woolfolk Hoy, 2006). Questions about trust and academic emphasis were revised to make them relevant to principals. Questions regarding efficacy are not so easily translated from the school and individual teacher scales, as efficacy is context specific, and the role of the principal as a building leader is contextually different than the role of a teacher in his/her classroom.

Human resource development research on psychological capital (PsyCap) offered some direction as we wrote the questions for this portion. Luthans and his colleagues define PsyCap as “an individual’s positive psychological state of development characterized by: 1) having confidence (efficacy) to take on and put in the necessary effort to succeed at challenging tasks; 2) making a positive attribution (optimism) about succeeding now and in the future; 3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and 4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success (Luthans, Youssef, & Avolio, 2007, p.3) Its measure, which has been tested for reliability and validity, contains items that address each of the four components (Luthans, Avolio, & Avey, 2007), but for this portion of the study, the items measuring efficacy were consulted and revised to make sense in the educational setting.

Survey 2: The independent variables.

Literature on Positive Organizational Behavior (POB) and psychological capital (PsyCap) informed the selection of independent variables (see Chapter 2 for a review of each independent variable). Resilience, hope, optimism and efficacy have been identified as “states” of Positive Organizational Behavior (POB) (Luthans, 2002, 2003). One of the

criteria these “states” had to meet to be included in POB was they must be measurable with a valid instrument, so those instruments were used in this study to measure the predictor variables.

This study explores how hope, optimism, and resilience are related to the factors that emerge from academic optimism at the principal level, but it considers these qualities in the context of school leaders.

Current scales exist to measure each of the independent variables, so the second survey combined the questions from pre-existing measures, including the Hope Scale (Snyder et al., 1991), the Resilience Scale (Wagnild & Young, 1993), the Life Orientation Scale (Carver & Scheiver, 2004) and the Implicit Theory of Intelligence Scale (ITIS) (Abd-El-Fattah & Yates, 2006).

The Hope Scale.

Hope is a construct of positive psychology and is recognized as a cognitive process containing goals, agency, and pathways (Snyder, 2000). The Hope Scale measures hope as a disposition or trait through questions that address two distinct factors related to reaching one’s goals: agency and pathways (Snyder, Harris, et.al, 1991). The scale asks participants to rate 12 items on a four point Likert scale from definitely false, scored as a 1, to definitely true, scored as a 4. Only eight of the questions are measured (4 distractor questions are omitted), and the sum of their answers provides the Hope Score. Each question is designed to examine either pathways or agency, as indicated in parenthesis (Pattengale, 2009). The following 8 questions are scored:

1. I can think of many ways to get out of a jam. (Pathways)
2. I energetically pursue my goals. (Agency)
3. There are lots of ways around any problem. (Pathways)
4. I can think of many ways to get the things in life that are most important to me. (Pathways)
5. Even when others get discouraged, I know I can find a way to solve the problem. (Pathway)
6. My past experiences have prepared me well for my future. (Agency)
7. I've been pretty successful in life. (Agency)
8. I meet the goals that I set for myself. (Agency)

Babyak, Snyder, and Yoshinobu (1993) note that the Hope Scale measures agency and pathways as two first-order latent variables “driven” by the second-order latent variable, hope. They tested three models: a null model that assumes all items are unrelated, a two-factor model and a one-factor model, and found the two-factor model yielded the best fit. This finding was consistent with the theory that hope is the product of agency and pathways. Reliabilities ranged from .96 to .99 for the agency and pathways dimensions. Snyder et al. (1991) report the scale is internally consistent with alphas around .8 for several studies. They also report the scale has evidenced construct and discriminant validity through several studies (Snyder et. al, 1991).

In this study, 95 of the original 111 participants completed the second set of surveys. The results of the Hope Scale revealed a relatively normal distribution (skewness=-.88; SE=.247) with a mean score of 28.78 and a standard deviation of 2.33. See Table 3.3. Further details will be discussed in Chapter 4.

| | |
|----------|-------|
| N | 95 |
| Mean | 28.78 |
| SD | 2.33 |
| α | .66 |

Table 3.3 Hope Scale Results

Resilience Scale.

Several instruments have been developed to study resilience on people of various ages, and for this study, Wagnild and Young’s 14 item Resilience Scale (2009) was used, because it is the most recent and short version of the most widely used scale to measure dispositional resilience in the world (Pinquart, 2008). It is short, with only 14 items, and has been used primarily with adults. Despite fewer questions, three studies have confirmed it remains as reliable as the original version, with alpha coefficients consistently reported between .81 and .88 (Wagnild, 2009; Abiola & Owoidoho, 2011; Nishi, Uehara, Kondo, & Matsuoka, 2010). The original scale had 25 items. The items are rated on a 7-point Likert Scale from Strongly Disagree to Strongly Agree. A total score provides an estimate of resilience. The following items are included on the RS-14:

1. I usually manage one way or another.
2. I feel proud that I have accomplished things in life.
3. I usually take things in stride.
4. I am friends with myself.
5. I feel that I can handle many things at a time.
6. I am determined.
7. I can get through difficult times because I’ve experienced difficulty before.
8. I have self-discipline.

9. I keep interested in things.
10. I can usually find something to laugh about.
11. My belief in myself gets me through hard times.
12. In an emergency, I'm someone people can generally rely on.
13. My life has meaning.
14. When I'm in a difficult situation, I can usually find my way out of it.

For this sample, 95 of the original 111 participants completed the Resilience Scale. Results reveal the sample has a relatively normal distribution (skewness=-.58; SE=.247) with a mean score of 87.23 and a standard deviation of 5.95. See Table 3.4. Further details will be discussed in Chapter 4.

| | |
|----------|-------|
| N | 95 |
| M | 87.23 |
| SD | 5.95 |
| α | .85 |

Table 3.4 Resilience Scale Results

Life Orientation Test-Revised (LOT-R).

Two valid, reliable instruments are generally used in research on optimism, the Life Orientation Test-Revised (LOT-R; Scheier, Carver, & Bridges, 1994) and Peterson and Seligman's (1984) measure that is developed on the idea that people's expectancies for the future stem from interpretations of past experiences (Scheier, 2010). Scheier (2010) notes that the scales are not interchangeable, because the LOT-R approaches optimism as a trait. This study sought to examine characteristics and personality traits that might predict principal academic optimism, so the LOT-R was used. The original

Life Orientation Test (LOT) measures general life optimism and was developed by Scheier and Carver (1985) and then revised by Scheier et al. in 1994 and renamed the Life Orientation Test-Revised (LOT-R). The LOT-R measures trait optimism, rather than state optimism, which means it measures one's overall tendency to be optimistic rather than measuring optimism in the context of a particular situation or event (Burke et al, 2000). The former LOT scale and the revised version are highly correlated in the .90s, as the revised version simply removed two previous questions (Scheier, Carver, & Bridges, 1994). Using a 5-point Likert scale from 0-4, respondents indicate the extent to which they agreed with 10 items. Three questions are reverse scored and four questions are filler questions and not scored. The sum of the six questions yields the LOT-R score, which can range from 0-24. Scored questions are listed below:

1. In uncertain times, I usually expect the best.
3. If something can go wrong for me, it will.
4. I'm always optimistic about my future.
7. I hardly ever expect things to go my way.
9. I rarely count on good things happening to me.
10. Overall, I expect more good things to happen to me than bad.

Previous research indicated the scale has high test-retest correlations, ranging from .58-.79 over periods lasting a few weeks to a few years. Furthermore, test-retest reliability has been very high over even longer periods of time, unless the test is given before a perceived threat (Sweeny, Carroll, & Shepperd, 2006). Matthews, Raikkonen, Sutton-Tyrrell, and Kuller (2004) found a test-retest correlation of .71 across a 10.4 year

period. Reilly, Geers, Lindsay, Deronde, and Dember (2005) note internal consistency and test-retest reliability of the LOT-R are high ($\alpha=.78$; test-retest reliability ranges over a 4 month period from .56-.79).

For this sample, 95 of the original 111 participants completed the LOT-R measure. The results revealed a normal distribution (skewness = -3.46; SE=.247) with a mean of 18.55 and a standard deviation of 3.01. See Table 3.5. Further details will be discussed in Chapter 4.

| | |
|----------|-------|
| N | 95 |
| M | 18.55 |
| SD | 3.01 |
| α | .77 |

Table 3.5 LOT-R Results

View of intelligence.

To measure one’s view of intelligence as either entity theory or incremental theory, participants took the Implicit Theory of Intelligence Scale (ITIS) (Abd-El-Fattah & Yates, 2006). The scale built on Faria and Fontaine’s (1997) Personal Conception of Intelligence scale. The ITIS contains 14 items participants rate on a 7 point Likert scale ranging from strongly disagree to strongly agree. Abd-Ed-Fattach & Yates (2006) tested the measure and found that the 14 items on the scale measured two distinct factors ($r = -.333, p. <.001$). Questions measuring the entity theory of intelligence loaded from .52-.86 with an Eigenvalue of 3.4. Questions measuring incremental ranged from .56-.71 and had an Eigenvalue of 2.7. In a study with two large samples from Australia and Egypt, the scaled proved to be reliable. Cronbach alphas for the 7 items reflecting beliefs of entity theory were .78 for the Egyptian sample and .83 for the Australian sample.

Cronbach alphas for the other 7 items that address beliefs of incremental theory were .75 for the Egyptian sample and .76 for the Australian sample. Items for ITIS are listed below.

Entity

1. You are born with a fixed amount of intelligence.
2. Good performance in a task is a way of showing others that you are intelligent.
3. You have a certain amount of intelligence and you cannot do much to change it.
4. If you fail in a task, you question your intelligence
5. When you exert a lot of effort, you show that you are not intelligent.
6. Difficulties and challenges prevent you from developing your intelligence.
7. Your abilities are determined by how intelligent you are.

Incremental

8. Good preparation before performing a task is a way to develop your intelligence.
9. Performing a task successfully can help develop your intelligence.
10. You can develop your intelligence if you really try.
11. When you learn new things, your basic intelligence improves.
12. The effort you exert improves your intelligence.
13. If you fail in a task, you still trust your intelligence.
14. Criticism from others can help develop your intelligence.

For this study, 95 of the original 111 participants completed the ITIS. The sample's distribution for the entity questions is normal (skewness = .365; SE=.247) with a mean of

20.94 and a standard deviation of 5.71. The sample's distribution for the incremental questions is also normal (skewness = -.407; SE=.247) with a mean of 35.42 and a standard deviation of 6.50. A paired sample t test shows the difference between the means of the two factors was significant ($t=15.429$; $df=94$; $p=.000$). The significantly higher mean for the incremental questions indicates this sample leans toward an incremental view of intelligence. See Table 3.6. Further details will be discussed in Chapter 4.

| | Entity | Incremental |
|----------|--------|-------------|
| N | 95 | 95 |
| M | 20.94 | 35.42 |
| SD | 5.71 | 6.50 |
| α | .72 | .84 |

3.6 ITIS Results

Analysis Procedures

The unit of analysis for this study was at the individual level. Elementary school principals throughout Ohio were assessed using a scale intended to explore the components of academic optimism at the principal level. Participants also completed a number of pre-existing measures for hope, general life optimism, resilience and view of intelligence. Data analysis included several phases.

The first research question asked: How do the components of academic optimism translate to the principal level? To explore this question, principal axis factor analysis with varimax rotation was used to analyze the items on the academic optimism of principals scale that measured efficacy, trust and academic optimism. Reliability was checked for each set of questions and for the scale as a whole. After six factors were

identified, a second principal axis factor analysis with varimax rotation on those factors was used to explore their relationship, and two factors emerged.

The second research question asked: How does a principal's view of intelligence, general life optimism, resilience or hope explain the variance in factors emerging from the principal academic optimism scale? The third research question asked: How do contextual variables, such as school type as rural, urban or suburban; principal years of experience; percentage of students on free and reduced lunch; and size of student body explain the variance in factors emerging from the principal academic optimism scale?

To explore these questions, regression analysis was used. After testing the statistical assumptions necessary for regression and examining the results of one way ANOVAs for the demographic variables, simultaneous and forced entry block regression was used. In addition, interaction variables were created and tested using simultaneous and block, forced entry multiple regression.

CHAPTER 4

RESULTS AND PRESENTATION OF DATA

This chapter details the results of the data analysis for the 95 elementary school principals in Ohio who completed two independent surveys. The chapter begins with a summary of the data analysis of the first scale that was intended to measure Principal Academic Optimism and the results of the exploratory factor analysis. It then details the descriptive statistics for each independent variable and the results of several multiple regressions to determine how the predictor variables explain the variance in the leadership factor, which contained the two efficacy variables and the two academic emphasis variables.

The Results of the Principal Academic Optimism Scale

This study set out to explore the components of academic optimism at the principal level by building on the teacher level model, which contains trust, efficacy and academic emphasis. Specifically, it sought to explore the following research question: How do the components of academic optimism translate to the principal level? The data for principals, however, did not support this model with three factors at the principal level. Instead, the exploratory factor analysis revealed six new variables, which I named Principal Trust in Parents; Principal Trust in Students; Academic Emphasis; Celebrating

Success; Principal Efficacy in Instructional Supervision; and Principal Efficacy in Management.

The Academic Optimism Scale for Principals.

The initial scale contained 45 items designed to measure the three components of academic optimism: efficacy, trust and academic emphasis. An alpha coefficient showed the scale was reliable ($\alpha=.926$). A principal axis factor analysis using varimax rotation revealed 11 factors. However, a number of the questions loaded on more than one factor, so analyses were run for sets of questions that had been designed to measure each of the components of academic optimism.

Principal Trust.

The first 14 items measured the principal's trust in students and parents. Eight items addressed trust in parents and 6 others measured trust in students. A principal axis factor analysis with varimax rotation revealed that all items loaded on two factors, one for parent trust and one for student trust. Factor loadings ranged from .752 to .655 for parent trust and .783 to .581 for student trust. One question was eliminated because it failed to load high on either factor. After removing that question, the factor analysis was rerun and two strong factors emerged. (see Table 4.1). Factor 1 was called Principal's Trust in the Parents, whereas factor 2 was called Principal's Trust in Teachers (see Table 4.2). Alpha coefficients showed both factors were reliable ($\alpha_{\text{TrustP}}=.91$; $\alpha_{\text{TrustS}}=.85$). Unlike studies of teacher faculty trust and collective faculty trust in students and parents,

for principals, two trust factors emerged rather than one (Bryk & Schneider, 2002; Hoy, Tarter, Woolfolk Hoy, 2006; Tschannen-Moran, 2004).

| Question | Factor 1 | Factor 2 |
|---------------------|----------|----------|
| Q9 | .724 | .152 |
| Q7 | .716 | .351 |
| Q5 | .709 | .273 |
| Q1 | .707 | .371 |
| Q6 | .702 | .408 |
| Q2 | .700 | .207 |
| Q8 | .684 | .277 |
| Q10 | .674 | .142 |
| Q14 | .097 | .833 |
| Q4 | .360 | .665 |
| Q3 | .461 | .652 |
| Q13 | .161 | .587 |
| Q11 | .451 | .576 |
| Eigenvalue | 6.765 | 1.505 |
| Cumulative variance | 52.040 | 63.619 |

Table 4.1 Factor Analysis of Principal Trust in Students and Parents

| Items | Mean | SD |
|---|-------|------|
| Items for Principal Trust in Parents | 38.76 | 4.93 |
| Q9. Parents are willing to share information with me. | 5.03 | .667 |
| Q7. Most parents are honest with me. | 4.91 | .769 |
| Q5. The parents of the students in my school are reliable. | 4.86 | .773 |
| Q1. I trust the parents of the students in my school. | 4.84 | .654 |
| Q6. I believe what most parents tell me. | 4.74 | .828 |
| Q2. I can count on parent support. | 4.84 | .930 |
| Q8. Most parents are open with me. | 4.90 | .700 |
| Q10. Parents volunteer information about their children freely. | 4.82 | .753 |
| Alpha for Trust in Parents =.91 | | |
| Items for Principal Trust in Students | 26.28 | 2.53 |
| Q14. Most students are honest with me. | 5.22 | .622 |
| Q4. Most of my students are honest. | 5.32 | .689 |
| Q3. I trust the students in my school. | 5.20 | .693 |
| Q13. Most students are open with me. | 5.40 | .591 |
| Q11. Students in my school are generally dependable. | 5.15 | .635 |
| Alpha for Trust in Students=.85 | | |

Figure 4.2 Trust Items and their Means and Standard Deviations

Principal Academic Emphasis.

The next set of items was designed to measure the principal's academic emphasis. Principal axis factor analysis with varimax rotation was used. An initial analysis identified three factors, but further reflection on the questions that formed the third factor led to their omission. These questions measured how principals perceived the motivations of students, such as whether or not they neglect homework or respect their peers who work hard. Upon further reflection, it was determined that principals could not accurately measure how other students feel about achievement, and therefore, the questions should not be included in the set meant to measure a principal's academic emphasis. After rerunning a principal axis factor analysis with varimax rotation on the remaining questions and examining the factor loadings, two conceptually sound factors emerged (see Table 4.3). Factor 1 was Academic Emphasis as it is typically measured in climate studies (Hoy, Tarter, & Kottkamp, 1991). All of these items were academic expectations the principal held for their students and teachers. Factor 2 measured the extent to which principals celebrated academic success and was called Celebrating Success (see Table 4.4). Alpha coefficients showed both factors were reliable ($\alpha_{\text{AcaEmp}} = .861$; $\alpha_{\text{CelSuc}} = .862$). One factor had been anticipated, that is, it was theorized that celebrating success would be part of academic emphasis. That was not the case in this study of principals. Academic emphasis is measured by the items in Factor 1. Celebration of success is determined by the items in Factor 2.

| Question | Factor 1 | Factor 2 |
|---------------------|----------|----------|
| Q21 | .848 | .159 |
| Q16 | .808 | .217 |
| Q15 | .674 | .387 |
| Q19 | .619 | .152 |
| Q26 | .617 | .247 |
| Q22 | .150 | .901 |
| Q20 | .289 | .772 |
| Q18 | .261 | .719 |
| Q17 | .199 | .627 |
| Eigen value | 4.581 | 1.574 |
| Cumulative variance | 50.900 | 68.390 |

Table 4.3 Factor Analysis of Academic Emphasis

| Item | Mean | SD |
|--|-------|------|
| Items for Academic Emphasis | 27.84 | 2.28 |
| Q21. I work with teachers to ensure they set high academic standards for all students. | 5.40 | .735 |
| Q16. I encourage teachers in my building to give challenging work to all students. | 5.72 | .476 |
| Q15. I urge students to set high academic goals. | 5.67 | .493 |
| Q19. I work with teachers to ensure the academic success of their students. | 5.52 | .634 |
| Q26. I emphasize academic success for all students in this school. | 5.54 | .580 |
| Alpha for Academic Emphasis=.86 | | |
| Items for Celebrating Success | 20.40 | 2.86 |
| Q22. I routinely celebrate the academic successes of our students. | 5.03 | .856 |
| Q20. I routinely celebrate the academic excellence of the school. | 5.09 | .851 |
| Q18. I highlight the school's overall academic achievement. | 5.37 | .826 |
| Q17. I highlight individual student's academic achievement. | 4.91 | .900 |
| Alpha for Celebrating Success=.86 | | |

Table 4.4 Academic Emphasis Items and their Means and Standard Deviations

Principal Efficacy.

The final set of questions addressed principal efficacy. After removing questions that loaded high on more than one factor, a principal axis factor analysis with varimax rotation identified two interpretable factors with high factor loadings (see Table 4.5). The first factor included items that measured a principal's efficacy regarding working with teachers as an instructional leader. This factor was called Principal Efficacy in

Instructional Supervision. These items expressed self-efficacy in evaluating teachers, offering constructive criticism and helping teachers improve. The second factor was related to a principal's efficacy in regard to management issues and was called Principal Efficacy in Management. Items in that factor measured efficacy of such management decisions as data-based decisions, providing professional development, and securing and allocate resources (see Table 4.6). Alpha coefficients showed both factors were reliable ($\alpha_{\text{EFFI}}=.85$; $\alpha_{\text{EFFM}}=.77$).

| | Factor 1 | Factor 2 |
|---------------------|----------|----------|
| Q39 | .818 | .270 |
| Q38 | .694 | .271 |
| Q40 | .674 | .243 |
| Q37 | .635 | .422 |
| Q33 | .172 | .888 |
| Q42 | .361 | .609 |
| Q30 | .262 | .517 |
| Q34 | .322 | .517 |
| Eigenvalue | 4.156 | 1.063 |
| Cumulative variance | 51.953 | 65.236 |

Table 4.5 Factor Analysis of Principal Efficacy

| Item | Mean | SD |
|--|-------|------|
| Items for Principal Efficacy in Instructional Supervision | 20.64 | 2.44 |
| 39. I am confident working with struggling teachers to help them improve. | 5.03 | .792 |
| 38. I am confident offering constructive criticism to my teachers. | 5.18 | .729 |
| 40. I am confident resolving conflicts in my building. | 5.13 | .747 |
| 37. I am confident evaluating my teachers. | 5.31 | .685 |
| Alpha for Principal Efficacy in Instructional Supervision=.85 | | |
| Items for Principal Efficacy in Management | 20.65 | 2.09 |
| 33. I am confident crafting effective professional development for my staff. | 5.11 | .707 |
| 42. I am confident working with teachers on goal setting. | 5.35 | .632 |
| 30. I am confident integrating data into my decision-making process. | 5.33 | .626 |
| 34. I am confident seeking outside resources to address school problems. | 4.87 | .775 |
| Alpha for Principal Efficacy in Management=.77 | | |

Table 4.6 Principal Efficacy Items and their Means and Standard Deviations

The first wave of data collection was intended to explore the components of academic optimism at the principal level. After the initial factor analyses of the groups of questions led to the omission of several questions on the scale, the new scale contained 30 questions and retained a high reliability coefficient ($\alpha=.903$). The items on the scale were written to measure efficacy, trust and academic emphasis, and it was assumed that these three components would also make up principal academic optimism. Because the exploratory factor analysis revealed six factors, I created six new variables. These new variables were computed using coarse factor scoring, where the items from the scale that measured each variable were summed (Grice, 2001). This method was chosen because the two established scales to measure teacher and school level academic optimism use summed scores for the three components of academic optimism. The new variables were named: Principal Trust in Parents (PTrust); Principal Trust in Students (STrust); Academic Emphasis (AcaEmp); Celebrating Success (CelSuc); Principal Efficacy in Instructional Supervision (EffS); and Principal Efficacy in Management (EffM). Each variable had a normal distribution (see Table 4.7). Significant correlations among the variables were moderate and high for EffS, EffM, AcaEmp, and CelSuc. Trust in students and trust in parents was also highly correlated and significant ($r=.635$). See Table 4.8.

| | M | SD | Skewness | SE Skewness | # Items |
|--------|--------|-------|----------|-------------|---------|
| PTrust | 38.928 | 4.791 | -.438 | .247 | 8 |
| STrust | 26.270 | 2.486 | -.160 | .247 | 5 |
| AcaEmp | 27.784 | 2.585 | -1.87 | .247 | 5 |
| CelSuc | 20.596 | 2.938 | -1.31 | .247 | 4 |
| EffS | 20.748 | 2.425 | -.416 | .247 | 4 |
| EffM | 20.757 | 2.129 | .008 | .247 | 4 |

Table 4.7 Descriptive statistics for the six new variables

| | EffM | EffS | CelSuc | AcaEmp | STrust | PTrust |
|---------|--------|--------|--------|--------|--------|--------|
| EffM | 1 | .603** | .428** | .587** | .243* | .148 |
| EffS | .603** | 1 | .451** | .587** | .253** | .156 |
| CelSuc | .428** | .451** | 1 | .489** | .117 | .096 |
| AcaEmp. | .587** | .587** | .489** | 1 | .204* | .205* |
| STrust | .243* | .253** | .117 | .204* | 1 | .635** |
| PTrust | .148 | .156 | .096 | .205* | .635** | 1 |

*significant at the .01 level (2-tailed)

**significant at the .05 level (2-tailed)

Table 4.8 Correlation Table for the Six New Variables

Factor Analysis on Six New Variables: Testing for Principal Academic Optimism

The original research question asked how academic optimism's components would translate to the principal level. As a crude approximation to a 2nd order factor analysis, the six new variables were treated as items in a further factor analysis. This second principal axis factor analysis with varimax rotation using the six factors was run to explore how those factors would relate to each other. The analysis revealed two general factors (see Table 4.7). The first factor included academic emphasis, celebration of success, principal efficacy in instructional supervision, and principal efficacy in management; however, both principal trust in parents and principal trust in students combined to form a second factor.

| | Factor 1 | Factor 2 |
|-----------------------|----------|----------|
| The leadership factor | | |
| AcdEmp | .768 | .139 |
| EffS | .759 | .142 |
| EffM | .745 | .134 |
| CelSuc | .595 | .043 |
| Trust | | |
| STrust | .156 | .808 |
| PTrust | .088 | .769 |
| Eigenvalue | 2.804 | 1.422 |
| Cumulative variance | 46.74 | 70.43 |

Table 4.9 Factor Analysis of Six New Variables

Unlike earlier studies at the individual level for teachers (Fahy, Wu, & Hoy, 2010) and at the school level (Hoy, Tarter, & Woolfolk Hoy, 2006), it is clear from this factor analysis that academic optimism of the principal is not one factor comprised of efficacy, academic emphasis, and trust in parents and students. In this second factor analysis, a leadership factor appeared, which contained the two efficacy variables and the two academic emphasis variables. Throughout the rest of this dissertation, this factor will be referred to as the leadership factor. The second factor was labeled trust in parents and teachers. After summing the four separate final scores (Grice, 2001) for each component contained in the leadership factor and the two trust components, data showed a normal distribution for both (See Figure 1 and Table 4.10). Coarse factor scoring was used, because academic optimism at the teacher level uses course factor scoring to determine the values of the three components of academic optimism. Also, course factor scoring is an efficient and simple, and the scores are generally stable across independent samples (Grice, 2001). Correlations

among the leadership factor variables were moderate or high and significant. (See Tables 4.10 and 4.11). The trust variables were also moderately correlated ($r=.635$).

Based on these results, there was concern that, despite the emergence of the trust factor, insufficient construct coverage was available to ensure validity of the use of this factor. While acknowledging this limitation, the rest of this dissertation focuses on the leadership factor.

| | Mean | SD | Skewness | SE Skew |
|-------|--------|-------|----------|---------|
| LCL | 89.784 | 8.062 | -.536 | .247 |
| Trust | 65.198 | 6.654 | -.214 | .247 |

Table 4.10 Mean Factor Scores and Skewness for Two New Factors

| | EffM | EffS | CelSuc | AcaEmp | STrust | PTrust | Leadership | Trust |
|------------|------|--------|--------|--------|--------|--------|------------|--------|
| EffM | 1 | .603** | .428** | .587** | .243* | .148 | .798** | .197* |
| EffS | | 1 | .451** | .587** | .253** | .156 | .813** | .207* |
| CelSuc | | | 1 | .489** | .117 | .096 | .770** | .113 |
| AcaEmp | | | | 1 | .204* | .205* | .831** | .224* |
| STrust | | | | | 1 | .635** | .248** | .831** |
| PTrust | | | | | | 1 | .187* | .957** |
| Leadership | | | | | | | 1 | .227* |
| Trust | | | | | | | | 1 |

**significant at the .01 level (2-tailed)
*significant at the .05 level (2-tailed)

Table 4.11 Correlation Table for Six New Variables and Two New Factors

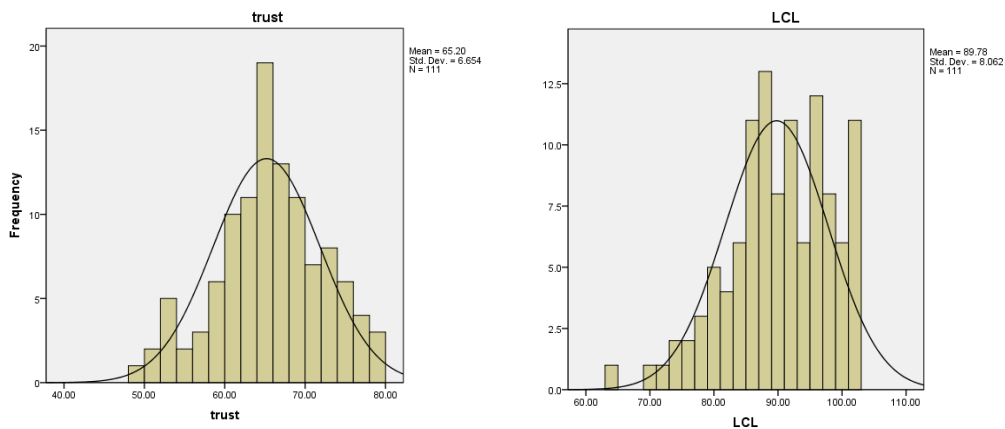


Figure 4.1: Histograms of trust and LCL distribution

Examining the predictor variables

Descriptive information on the explanatory variables.

After learning the components of academic optimism look different at the principal level and discovering the leadership factor, the next step of the analysis turned toward the second and third research questions, which asked how the explanatory variables are related to the leadership factor. Specifically, these questions asked:

How does a principal's view of intelligence, general life optimism, resilience or hope explain the variance in the leadership factor?

How do contextual variables, such as school type as rural, urban or suburban; principal years of experience; percentage of students on free and reduced lunch; and size of student body explain the variance in the leadership factor?

The following demographic variables were considered: the size of the school (SIZE), whether or not the school is classified as urban, suburban or rural (DTYPE), the total number of years of experience of the principal (PEXP), and the percentage of students in the school receiving free and reduced lunches (FRL). See Chapter 3 for more information on this sample's demographics.

Frequency distributions for each demographic variable revealed only four urban principals completed the study and only four of the principals in the sample worked in a small school, defined as a school with 250 or fewer students. A crosstabulation of the district type and size revealed none of the four principals from urban areas taught in a small school. The majority of the sample was principals working in mid-sized schools, defined as schools with between 250-500 students, or large schools, defined as schools

with more than 500 students. It was reasonable to combine the urban and suburban principals into the same group and to combine the small and mid-sized schools into the same group, as the sample would not permit generalization to urban principals or small schools. This allowed the data for the type of district to be coded as 0 for rural and 1 for urban/suburban. School size was coded as 0 for 0-500 students and 1 for schools with more than 500 students.

The principals' years of experience was more evenly distributed. Just over a quarter, or 28.4 percent, had been principals for fewer than five years. Another 29.5 percent had served between five and ten years, and 42.1 percent had been principals for more than ten years. In order to code the data, the group of principals from 6-10 years were used as the referent group and assigned a 0. Two dummy coded variables were created to represent the 3 categories, called PEXP5 for principals with five years of experience or less and PEXP10 for principals with more than ten years of experience.

The number of students on free and reduced lunches was divided into quartiles, with 34.7 percent of the sample at schools with 0-25 percent of their students on free and reduced lunches, 36.8 percent of the sample at schools with 26-50 percent of their students on free and reduced lunches, 22.1 percent of the sample at schools with 51-75 percent of their students on free and reduced lunches, and 6.3 percent with more than 75 percent of their students on free and reduced lunches. Data was coded with the following key: 0-25 percent=0; 26-50 percent=1; 51-75 percent = 2; over 76 percent = 3.

Statistical Analyses.

This portion of the study aimed to explore the possible predictors of the leadership factor. Specifically, it addressed the following two research questions:

1. How does a principal's view of intelligence, general life optimism, resilience or hope explain the variance in the leadership factor?
2. How do contextual variables, such as school type as rural, urban or suburban; principal years of experience; percentage of students on free and reduced lunch; and size of student body explain the variance in the leadership factor?

Descriptive analyses.

One-way ANOVAs were conducted to compare the effect of the demographic variables on the leadership factor. There was not a significant effect of any of these variables on the leadership factor at the $p < .05$ level for the different conditions (see Table 4.12).

| | Df | F | P |
|-------|----|-------|------|
| PEXP | 2 | .034 | .967 |
| DTYPE | 1 | 1.871 | .175 |
| SIZE | 1 | .673 | .414 |
| FRL | 3 | .084 | .969 |

Table 4.12 One Way ANOVAs of The leadership factor and Demographic Explanatory Variables

In addition to the demographic variables, hope, resilience, general life optimism, and view of intelligence were examined as possible predictors of the leadership factor.

See Table 4.13.

| | Mean | SD |
|-------------------|--------|------|
| LOT | 18.547 | 3.01 |
| Trust | 65.031 | 6.82 |
| Intel-Entity | 20.94 | 5.71 |
| Intel-Incremental | 35.42 | 6.50 |
| Resil | 87.232 | 5.95 |
| Hope | 28.779 | 2.33 |

Table 4.13 Descriptive statistics of the explanatory variables

Pearson correlations among the continuous explanatory variables and the leadership factor indicated that three explanatory variables were significantly correlated to the leadership factor: hope, resilience, and optimism. Among the explanatory variables, general life optimism was moderately and significantly correlated to resilience ($r=.672$; $p=.000$). Hope was also moderately correlated to resilience ($r=.532$; $p=.000$). Hope and general optimism were only mildly related ($r=.358$). . (See Table 4.14).

| | HOPE | RESIL | LOT | INCREMENTAL | ENTITY | LEADERSHIP |
|-------------|--------|--------|--------|-------------|--------|------------|
| HOPE | 1 | | | | | |
| RESIL | .532** | 1 | | | | |
| LOT | .358** | .672** | 1 | | | |
| INCREMENTAL | -.082 | .096 | -.001 | 1 | | |
| ENTITY | -.046 | -.104 | -.092 | -.119 | 1 | |
| LEADERSHIP | .377** | .471** | .303** | .027 | -.093 | 1 |

**significant at the .01 level (2-tailed)

*significant at the .05 level (2-tailed)

Table 4.14 Correlations of the explanatory variables

Regression analyses.

After examining the relationships among the explanatory variables and testing for the required assumptions for regression, a simultaneous linear regression was run with all demographic and explanatory variables entered into one model. This exploratory model was significant ($F=2.893$; $df=10$; $p=.004$) and explained 25.6 percent of the variance in the leadership factor ($R\text{ Square}=.256$). Only resilience was statistically significant in the model ($p=.013$).

Because the previous Pearson correlation had flagged hope, optimism and resilience as having significant relationships with each other and with the leadership factor, a second regression was run with just hope, optimism, and resilience as independent variables. This model was also significant ($F=9.824$; $df=3$; $p=.000$). It explained 24.5 percent of the variance ($R\text{ Square}=.245$). In order to better understand how these independent variables explained the variance in the leadership factor, they were entered separately in blocks. Resilience explained 22.2 percent of the variance ($R\text{ Square} = .222$). Hope explained an additional 2.2 percent of the variance ($R\text{ Square} = .022$), but the $F\text{ Change}$ was not significant ($p=.103$). General life optimism did not explain any additional variance ($R\text{ Square Change}=.000$; $p=.842$).

Although all the variables entered simultaneously were able to explain the most variance, the most parsimonious model included only hope and resilience, because the model was significant ($F=14.871$; $df=2$; $p=.000$), and those two variables were able to explain nearly a quarter of the variance in this study when included as the only independent variables in the regression equation ($R = .494$; $R\text{ Square}=.244$). See Table 4.15.

| | B | T | P | Part Correlations | Part ² |
|----------|--------|-------|------|----------------------|-------------------|
| Constant | 29.957 | 2.734 | .008 | | |
| RESIL* | .490 | 3.526 | .001 | .320 | 10.24 |
| HOPE | .585 | 1.645 | .103 | .149 | 2.20 |

*significant at the .01 level (2-tailed)

Table 4.15 Regression Model Summary

To better understand how resilience and hope uniquely explained the variance in the leadership factor, part correlations were examined. Resilience was able to uniquely explain 10.24 percent of the variance after controlling for hope. Hope was able to uniquely explain 2.2 percent of the variance after controlling for resilience (See Table 4.14).

Testing for Interactions between Resilience and Context.

The importance of context has been well documented in the literature on school leadership (Aelterman, Engels, Verhaeghe, Sys, Van Petegem, & Panagiotou, 2002; Bossert et. al, 1982). Since resilience clearly had the most explanatory power in every regression model, I examined possible interactions between resilience and the contextual variables selected for the study, including percentage of students on free and reduced lunches, size of school, years of experience of the principal and type of school as rural or suburban/urban.

The combination of free and reduced lunches and resilience did not have a significant interaction effect in the model. Although the model was significant ($F=9.474$; $df=3$; $p=.000$), the interaction only helped to explain an additional 1.6 percent of the variance ($R\text{ Square Change} = .016$), which was not a significant F Change ($F\text{ Change}=1.900$; $p=.171$). Resilience in the context of high or low percentages of SES does not seem to have an effect on the leadership factor.

As one of the Positive Organizational Behaviors (Luthans, 2002, 2003), resilience had to be a characteristic that can be developed and managed. To test whether or not a principal's years of experience might have an interaction effect with resilience, since that principal would have had more time to experience and overcome difficult situations, another interaction was created between principal years of experience and resilience. This sample's years of experience was divided into three groups: 0-5 years, 6-10 years, or more than ten years of experience. In order to code the data, the group of principals from 6-10 years were coded as the referent group and assigned a 0. Two dummy coded variables were then created, called PEXP5 for principals with five years of experience or less and PEXP10 for principals with more than ten years of experience.

To check for interactions, I created two products and ran two interaction regressions. The first product looked at the early part of a principal's career and the second interaction product looked at more experienced principals. The model that examined a possible interaction between resilience and principals at the beginning of their careers was significant ($F=8.774$; $df=3$; $p=.000$), but the interaction variable did not explain additional variance in the leadership factor (R Square Change = .002; F Change=.229; $df=1$; Sig F Change=.633). Similar results occurred when looking at the more experienced principals. The model was significant ($F=8.828$; $df=3$; $p=.000$), but the interaction variable did not explain any more of the variance in the leadership factor (R Square Change = .002; F Change=.292; $df=1$; Sig F Change=.590).

No significant interaction effect existed for resilience and school size either (R Square Change=.000; F Change=.020; df=1; Sig F Change=.887) or for resilience and district type (R Square Change=.002; F Change=.292; df=1; Sig F Change=.590).

It appears that the principal's context, as defined by the demographic variables in this study did not have any interaction effects with resilience, the variable that was able to predict the most variance in the leadership factor.

Summary

This chapter described the study's sample and detailed the analyses and findings from the data. The first research question of this study asked: How do the components of academic optimism translate to the principal level? The data from this sample revealed that the components of academic optimism: efficacy, trust, and academic emphasis, do not appear to remain a single construct. Rather, two factors emerged. A new concept, which I refer to as the leadership factor, contained efficacy in management, efficacy in instructional supervision, academic emphasis and celebration of success. The second factor contained trust in students and parents. Despite the emergence of the trust factor, there was concern that insufficient construct coverage was available to ensure validity of the use of this factor. Thus, while acknowledging this limitation, the remainder of the study focused on the leadership factor.

The second research question asked: How does a principal's view of intelligence, general life optimism, resilience or hope explain the variance in the leadership factor? The data showed that resilience can explain nearly a quarter of the variance in the

leadership factor. The other variables were not able to explain significant amounts of the remaining variance.

The third research question asked: How do contextual variables, such as school type as rural, urban or suburban; principal years of experience; percentage of students on free and reduced lunch; and size of student body explain the variance in the leadership factor? Multiple regression analysis revealed these contextual variables appear to have no predictive power on the leadership factor. Interactions were considered, but yielded no significant results.

CHAPTER 5

DISCUSSION OF RESULTS

In this chapter the major findings of the study are reviewed and discussed in terms of current research. A research agenda is also proposed.

Major Findings

The major findings that emerged from this exploratory study are as follows:

1. Although academic optimism has been confirmed as a school-level and teacher-level second-order latent construct containing efficacy, trust in clients, and academic emphasis, it was not confirmed at the principal level.
2. Instead, the components of academic optimism divided into six separate components at the principal level: efficacy in management, efficacy in instructional supervision, academic emphasis, celebration of success, trust in parents, and trust in students.
3. The two efficacy components and the two academic emphasis components unified to form a factor referred to as the leadership factor. The leadership factor is principal behavior grounded in efficacy to provide both instructional leadership

and effective management as well as to emphasize and celebrate academic success of students.

4. Principal resilience was able to explain about a quarter of the variance in the leadership factor.

5. When all predictor and demographic variables were considered simultaneously, they were able to explain 25.6 percent of the variance in the leadership factor.

6. Interactions between resilience and principal experience did not yield any significant results.

7. Although correlations indicated a significant relationship between hope and the leadership factor, hope was only able to explain 2 percent of the variance in the leadership factor.

Discussion of Results

This study's original intent was to explore academic optimism at the principal level. The data did not support that principal academic optimism is comprised of the same components as school or teacher academic optimism. Rather, at the administrative level, the three components of academic optimism each split into two variables, for a total of six variables. These six variables then formed two factors, one labeled the leadership factor, which contained the two efficacy variables and the two academic emphasis variables, and one called trust in parents and students, containing the two trust variables (See Figure 1).

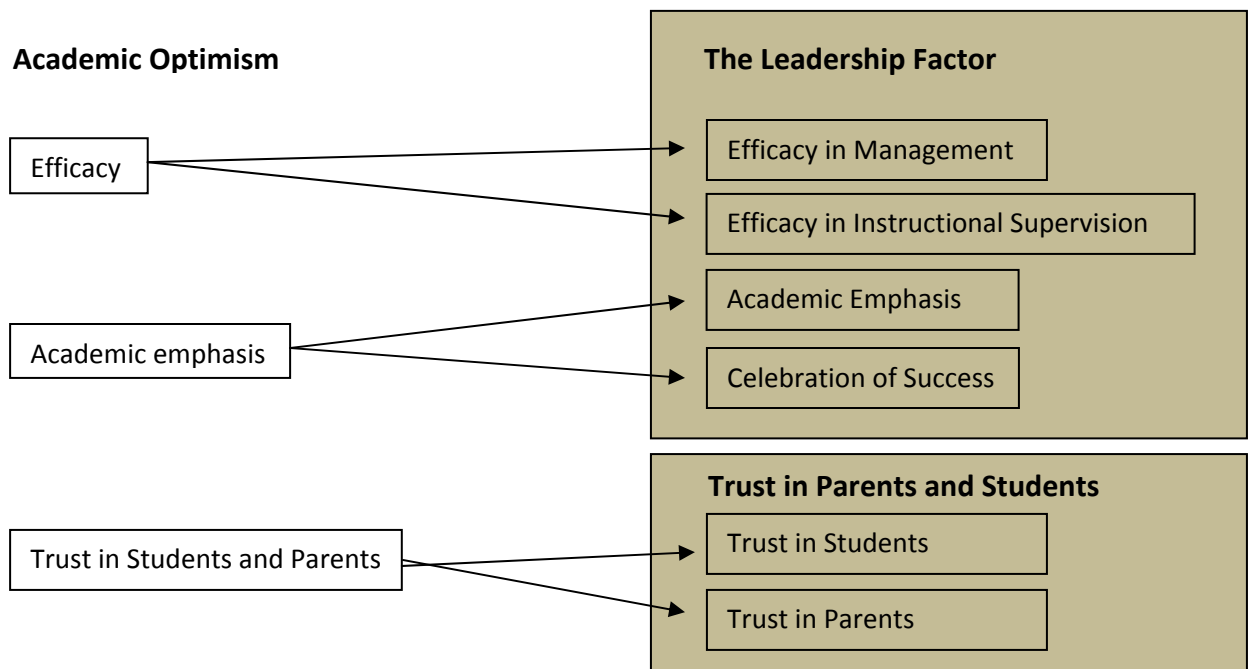


Figure 5.1: The emergence of two factors from Academic Optimism

Efficacy divided into two discrete variables: Efficacy in Supervision and Instruction and Efficacy in Management. Conceptually, this divide reflects the literature, as principals are tasked with a wide variety of roles that are distinct from one another. A principal may be an excellent building manager, who can allocate resources, maintain building safety and communicate with the community effectively. That same principal may not be an effective supervisor and instructional leader. The literature on principal roles supports this division, as research on principal effectiveness has generally developed along two pathways. One path focused on the principal as instructional leader, while the other explored the principal as the human resources manager (Bossert, Dwyer, Rowan & Lee, 1982; Bredeson, 1985; Danley & Burch, 1978; Edmonds, 1979; Griffith,

1999; Hallinger & Murphy, 1986; Helland & Winston, 2005; Mackler, 1996; Stronge, 1993); Wallace Foundation, 2011; Weller, Buttery & Bland, 1994).

Trust also divided into two variables, trust in parents and trust in students. At the teacher level, these two variables were interrelated and reinforced one another (Beard et al., 2010). The literature on trust offers a possible reason they were discrete at the principal level. The primary work of teachers requires they work closely with students, and parents are directly involved in the education of their children. It makes sense that trust in parents and students would be related and create one factor in teacher academic optimism. Principals do not have the same relationships with students as teachers do, so the relationships they form with students and parents are outside the context of the classroom and may not be as closely connected.

Furthermore, the principal axis factor analysis with varimax rotation on the six new variables revealed that trust in students and parents was a separate factor from the other variables, which formed a factor labeled the leadership factor. One possible reason trust in clients did not remain part of academic optimism at the principal level could be a reflection of the principal's many roles. Although principals are tasked with reaching out to the community at times (Griffith, 1999) and maintaining appropriate parent relations (Bossert, Dwyer, Rowan & Lee, 1982), the majority of their roles require they develop trusting relationships with their teachers and build a sense of school community, where every member of the community is respected and the atmosphere is an "upbeat, welcoming, solution-oriented, no-blame, professional environment (Wallace Foundation, 2011). The tasks expected of them as instructional supervisors, human capital managers

or transformational leaders are completed more successfully in a trusting environment, as “trust is the keystone of successful interpersonal relations, leadership, teamwork, and effective organizations” (Forsythe, Adams, & Hoy, 2011, p. 3). In order to capture the trust component of academic optimism at the principal level, future studies might consider the trusting relationships between the principal and his faculty, as well as the clients, and create new items for the scale to measure principal academic optimism.

Furthermore, the principal’s work requires regular interaction and relationship building with a number of others, including other administrators, teachers, and community members. School collective trust has been studied at many levels, including the organizational level, faculty trust level, principal trust level, and client trust level, where clients are the parents and students (Forsyth, Adams, & Hoy, 2011). This study only considered trust at the client level, with students and parents. Perhaps the trust component of academic optimism at the administrative level needs to consider a more global vision of trust and the principal’s level of trust in his/her faculty, organization and community. Hoy and Kupersmith (1985) found three scales to measure different types of faculty trust are moderately correlated. When the faculty trusts the principal, they are also likely to trust the organization and colleagues. This correlation may not exist at the administrative level, or maybe a more global view of trust and its many referents would have an impact on whether or not it fits into a principal academic optimism construct. Therefore, despite the emergence of the trust factor, insufficient construct coverage was available to ensure validity of the use of this factor. Although acknowledging this

limitation, the remainder of this dissertation focused on the leadership factor, which will be discussed in more detail later in this chapter.

The third component of academic optimism, academic emphasis, divided into two variables: academic emphasis in the traditional sense of the concept and celebration of success. In other words, because a principal sets high expectations and creates a climate where learning is valued does not mean that principal celebrates the successes of the building or individual students. Administration that does not recognize specific achievements and strengths of a faculty can foster a competitive climate in the school that decreases collective efficacy (Ferlazzo, 2011). Future questions about effective celebrations of success and how they contribute to faculty trust and collective efficacy may be of research interest.

The leadership factor.

The emergence of the leadership factor is the most important outcome of this study, and it warrants additional study in future research. The leadership factor is principal behavior grounded in a sense of efficacy to provide both instructional leadership and effective management as well as to emphasize and celebrate academic success of students. It is comprised of four components: efficacy in instructional supervision, efficacy in management, academic emphasis and celebration of success.

The contemporary literature on school leadership discusses principals as transformational leaders (Engels, et. al., 2008), who play an inspirational role for teachers

and engender a cooperative spirit. Most recently, the responsibilities of the principal have been listed as:

1. Shaping a vision of academic success for all students, one based on high standards;
2. Creating a climate hospitable to education in order that safety, a cooperative spirit and other foundations of fruitful interaction prevail;
3. Cultivating leadership in others so that teachers and other adults assume their part in realizing the school vision;
4. Improving instruction to enable teachers to teach at their best and students to learn at their upmost;
5. Managing people, data, and processes to foster school improvement (Wallace Foundation, 2011, p. 4).

Research on the leadership factor may help clarify the behaviors and characteristics of principals who will successfully fulfill these responsibilities.

Because principal leadership is among the most pressing matters on a list of public school issues, coming in second after teacher quality (Wallace Foundation, 2011), finding useful frameworks that capture the many disparate roles principals play can be helpful in understanding successful school leaders. The leadership factor contains components that address the responsibilities of principals as both instructional leaders and strategic human capital managers, so it could provide a useful lens for a wide variety of inquiry on school leadership.

The first component, efficacy in instructional supervision, is defined as a principal's sense that s/he has the capacity to perform the tasks involved in instructional supervision. These tasks include: improving instruction and student learning (Wallace Foundation, 2011), acting as a "master teacher" (Danley & Burch, 1978), understanding and emphasizing the curriculum and achievement (Hallinger & Murphy, 1986), and working with staff to foster school improvement with data-based decisions (Wallace Foundation, 2011).

The second component, efficacy in management, is defined as a principal's sense that s/he has the capacity to perform the tasks involved in managing human capital and the organization. These tasks include: leveraging positive relationships with key stakeholders in the organization and the community (Griffith, 1999), building organizational trust (Forsythe, Adams, & Hoy, 2011), creating consensus, maintaining discipline, allocating resources effectively, maintaining appropriate parent relations (Bossert, Dwyer, Rowan, & Lee, 1982), and managing talent for shared leadership (Odden, 2011).

The third component of the leadership factor is academic emphasis. Academic emphasis is a press for academic achievement, where teachers set high, but attainable goals for students, maintain an orderly and serious learning environment, and where students are motivated and respect academic achievement (Hoy & Miskel, 2005; Hoy, Tarter, & Kottkamp, 1991; Hoy, Tarter, & Woolfolk Hoy, 2006). The Wallace Foundation (2011) report on school principals notes that our society's definitions of high expectation and rigor have changed as global economic forces require *higher level*

thinking in all jobs, and we have begun to accept that we must close the achievement gap if we want to remain economically competitive. Therefore, a principal's level of academic emphasis, where high expectations are set and the school climate reflects the organization's value of achievement, is crucial to school reform and a required focus for principals. Research, policy and practice around successful school leadership must consider academic emphasis.

The fourth component of the leadership factor is celebration of success. Celebration of success is defined as regular recognition and celebration of staff and student accomplishments. Schools are under constant scrutiny. In an era where accountability is high-stakes, leaders should recognize and celebrate success. Anecdotally, a lack of this recognition has been attributed to creating a competitive and negative school culture, with low collective efficacy (Ferlazzo, 2011). This component of the leadership factor is also important, because celebrating success has not been as widely discussed as academic emphasis in the literature on the principal as an instructional leader or as a manager. Future research may consider whether celebration of success can be used as a predictor of positive school climate.

The leadership factor may provide a useful lens through which school leadership can be studied, because it captures the tasks identified in different bodies of literature on the role of the principal, the role of the school climate, and the importance of student success in today's educational climate. In a broad sense, the leadership factor reflects the complexity of the many responsibilities of principals and their contexts. Successful principals must be both instructional supervisors and strategic human capital and

organizational managers. They must also be active agents in the construction of a positive school climate that fosters high expectations and shared leadership. Finally, the leadership factor also reflects the ultimate goal of schools, which is student achievement, because it contains both an academic emphasis component and the celebration of success. It underscores the importance of the principal's role in learning and the school's overall success.

The exploration of the possible explanatory variables of the leadership factor.

The second part of this study sought to explore possible explanatory variables of the factors that emerged from the principal academic optimism scale. Human resource literature, specifically work on Psychological Capital, informed the choice of the following independent variables: resilience, hope and optimism (Luthans, Youssef, & Avolio, 2007). View of intelligence was also selected because of its impact on goal setting and perceptions of failure (Burns & Isbell, 2007). This study's data showed that only resilience could explain a notable percentage of the variance in the leadership factor. Resilience was able to explain nearly a quarter of the variance. In other studies on leadership, House, Spangler & Woycke (1991) argue that explaining anywhere between 20% and 66% of the variance is strong evidence for social science research (in Fichman, 1999).

The relationship of resilience to the leadership factor could have important practical consequences. Seligman's (2011) military resilience training (MRT) is ongoing, and is expected to offer conclusive evidence that resilience training can make adults more

effective in organizations. Resilience training for principals might also prove to be a useful tool in school improvement. Building resilience in principals would also be useful, because resilient people are strengthened through challenges and more prepared and resourceful when they face new obstacles (Sutcliffe & Vogus, 2003).

The fact that resilience alone predicted most of the explained variance is somewhat surprising for a number of reasons. First, academic optimism is associated to general life optimism (Beard et al., 2010), so it would be logical that optimism would also predict the leadership factor. The fact that the data did not support this assumption might suggest that trust is somehow the key to this association, as the efficacy and academic emphasis components of academic optimism were captured in the leadership factor. This study found the trust variables created their own factor and were not part of the leadership factor.

Second, hope affects an individual's perceptions with respect to his/her capacities to conceptualize goals clearly, develop specific strategies to reach goals, and to initiate and sustain motivation for using strategies (Snyder, Irving & Anderson, 2003). The leadership factor contains a principal's efficacy in relation to instructional supervision and human capital management, which requires one to set goals and develop strategies with staff, so one would expect hope to explain a significant amount of variance in the leadership factor. The fact that it does not might be an indication that principals still view hope as an emotion rather than a behavior, a more traditional view (Helland & Winston, 2005). Hope was widely considered an emotion before Snyder et al. (2003) introduced Hope Theory and a scale that measures hope as a behavior comprised of

goals, agency and pathways was created. This perception could affect the way principals answered questions on the Hope Scale. Perhaps capturing the role hope plays in the leadership factor might require a scale that captures the school context and encourages principals to consider hope as a “dynamic, powerful, and pervasive cognitive process that is observable across” (Helland & Winston, 2005, p. 42).

Third, the principal’s view of intelligence did not have any explanatory significance. This is also surprising for two reasons. Educational research stresses the importance of academic emphasis, high expectations, and rigor to student success (Goddard, Sweetland, & Hoy, 2000; Hoy & Hannum, 1997; Hoy & Sabo, 2008; Hoy, Tarter & Bliss, 1990; Wallace, 2012;). A principal with an entity view of intelligence will see failure as a sign of low intelligence rather than a challenge to overcome (Stroscher, 1997). This viewpoint would appear to be one that would affect a principal’s sense of academic emphasis, but the data did not support that. Second, a principal’s view of intelligence would affect his/her motivation, as people with incremental views respond more adaptively because they believe they can improve future performance (Burns & Isbell, 2007) and they employ strategies to reach mastery instead of strategies to withdraw from a task (Henderson & Dweck, 1990; Robines & Pals, 2002). Because the leadership factor contains efficacy, it would follow that principals with incremental theories of intelligence would have higher levels of efficacy, but the two variables were not significantly correlated.

Limitations

Demographic Data.

The demographic data for the sample was categorical rather than continuous, and the categories were self-selected by the participant. In order to understand any possible interactions, continuous data would have been more useful. Also, the data about the type of district asked participants to select urban, suburban or rural as their district type. Participants may or may not have been considering official categories of urbanicity, as defined by the Ohio Department of Education. Some schools in Ohio may be classified as urban by the Ohio Department of Education's parameters, but considered suburban or rural by their communities. Because the surveys were not tied to specific districts, there was no way to check whether or not the principal's selection of district type as urban, rural or suburban is accurate.

The distribution of the sample also poses some problems for generalizing the findings. Leaders at parochial schools, private schools and charter schools were not solicited for participation. Only four participants reported being in urban districts, although all urban districts were recruited to participate. Many large urban districts have processes that can involve prior approval from a central office administrative committee before any data collection can occur in a district. For this study, principals were recruited directly, so they may not have been permitted to participate due to district policy on research projects.

Statistical limitations.

This study was intended to be exploratory, so principal axis factor analysis with varimax rotation was used to analyze the data from the principal academic optimism scale. This approach allows for the maximum variance within each factor, and associates each variable with one factor, so each variable, ideally, is split into disjoint sets. This rotation minimizes correlations among factors. Although varimax rotation is the most common choice, it results in a loss of valuable information if the factors are correlated (Costello & Osbourne, 2005). Future studies might examine the data with an oblique rotation, which accounts for correlation among factors, which in social sciences, is more the norm than the exception (Costello & Osbourne, 2005). Sample size is also a limitation in this study, as any method of exploratory factor analysis is an error-prone procedure. For this exploratory study, exploratory factor analysis was the most appropriate method to begin examining the data, but future work will need to use confirmatory factor analysis to provide more informative analysis and to test hypotheses (Costello & Osbourne, 2005).

Because the first factor analysis used a varimax rotation, the second factor analysis, which looked at the six new factors that emerged from the first analysis, could not employ a true second order factor analysis. Therefore, as a crude approximation to a second order factor analysis, a second principal axis factor analysis with varimax rotation was run on the six new factors, which yielded two distinct factors: the leadership factor and trust.

The study also used coarse factor scoring to find factor scores. This method, although considered efficient and stable across samples, has a few noteworthy limitations. First, coarse factor scores may be highly correlated, even when the factors are orthogonal, which they were in this study. Therefore, they will be less valid representations of the factors in comparison to other methods of factor scoring (Grice, 2001).

Future Research

This exploratory study raised several important questions that may guide future research. The following research questions about the leadership factor, principal academic optimism, and psychological capital's importance in educational research may be used to frame a future research agenda.

Questions and Hypotheses about the leadership factor.

Future studies need to conduct a confirmatory analysis on the construct of the leadership factor. If confirmed, a number of new research questions based on the leadership factor could be explored.

1. How does the leadership factor affect school climate?
2. Is there a relationship between the leadership factor and school success, as measured by student achievement or growth?
3. Does the leadership factor contribute to teacher retention and job satisfaction?
4. Does the leadership factor build collective efficacy?
5. Does the leadership factor build collective trust in schools?

6. Can the leadership factor be taught in principal preparation programs or professional development programs for school leaders?
7. Does the leadership factor lead to the same positive organizational behaviors as Psychological Capital?
8. Could the leadership factor help enrich the learning centered leadership model (Murphy et al., 2006) by providing specific values and characteristics of effective principals?

Questions and hypotheses about principal academic optimism.

I expected principal academic optimism to be similar to teacher academic optimism and contain efficacy, trust and academic emphasis. This study found these components did not remain similar at the leadership level. Instead, each component broke into two separate factors, for a total of six factors. While the leadership factor captured the efficacy and academic emphasis components of academic optimism, trust was not only a separate factor all together, but also only mildly correlated to the leadership factor. This result raises questions for future study.

1. Would academic optimism at the principal level look similar to the concept at the teacher level if the questions regarding trust on the principal academic optimism scale were revised to measure faculty trust and organizational trust rather than student and parent trust?
2. Does the leadership factor play a role in the level of academic optimism of individual teachers or schools?

Academic optimism is associated to general life optimism (Beard et al., 2010), but the data in this study did not show that general life optimism is a predictor of the leadership factor. Perhaps trust is somehow the key to the association between general life optimism and academic optimism, as efficacy and academic emphasis were captured in the leadership factor, but trust was not. This finding leads to new questions about how general life optimism and the components of academic optimism are related.

1. What is the relationship between general life optimism and the individual components of academic optimism?
2. Is each component of academic optimism highly correlated to general life optimism?

Questions and hypotheses about the components of Psychological Capital and their role in educational research.

The explanatory variables for this study were chosen after consulting with human resource literature about Psychological Capital (PsyCap), which has been studied across industries. PsyCap contains efficacy, optimism, resilience and hope. Efficacy was captured in the leadership factor and resilience proved to be a significant predictor of the leadership factor in this study. The other components of PsyCap did not have significant relationships to the leadership factor. However, PsyCap has been studied across a number of industries, and it would be interesting to study it in the context of education. The results of this study raise some interesting questions about how the components of psychological capital could be studied in the educational setting.

1. What positive organizational behaviors in the educational setting could be linked to high levels of PsyCap?
2. Is PsyCap related to academic optimism of teachers?
3. Resilience, a component of PsyCap, by itself was able to explain over 20 percent of the variance in the leadership factor. What impact does principal resilience have on student achievement, teacher retention, or organizational climate?

Summary

A leadership factor that contains efficacy in instructional supervision, efficacy in human resource management, academic emphasis and celebration of success was discovered in this study. I also explored a number of possible explanatory variables for the leadership factor, including hope, resilience, optimism, and view of intelligence, and found that resilience was the strongest predictor of the leadership factor. The findings of this study raise a number of new research questions about the leadership factor, academic optimism at the principal level, and the possible application of Psychological Capital to educational research.

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