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The Relationship of Psychological Capital and Leader Humility in Minnesota Secondary Schools

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The Relationship of Psychological Capital and Leader Humility in Minnesota Secondary Schools

by

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Abstract

The purpose of this investigation was to study the relationship between leader humility and teacher psychological capital in Minnesota secondary schools through a quantitative, cross-sectional study design. The four independent variables examined in this study were teacher-reported leader humility, as measured by the Expressed Humility Scale (Owens et al., 2913), principal gender, teacher gender, geographical location of Minnesota schools, and principal longevity. Teacher psychological capital, as measured by the Psychological Capital -12 Questionnaire (Avey, et al., 2011) was the dependent variable. Principals in 597 Minnesota secondary schools were given the opportunity to forward a survey to their teachers. Respondents were 287 teachers working in Minnesota secondary schools. Statistical analysis revealed a positive and significant relationship found between teacher-reported leader-humility and teacher-reported psychological capital ($r = .288$, $p < 001$). The study also demonstrated a significant and predictive relationship between both teacher-reported leader humility and principal tenure with teacher psychological capital. Leader humility ($\beta = .309$, $p < .001$) and leader longevity ($\beta = .169$, $p < .005$) predicted teacher-reported psychological capital, accounting for 11.1% of the variance of teacher-reported psychological capital. There were significant and positive relationships established between teachers' self-report across all elements of psychological capital and all items on the Expressed Humility Scale. The strongest relationships were noted between principals who request feedback and teacher psychological capital, as well as leader-humility and teacher-reported PsyCap-optimism. There were no differences for variables of teacher gender, leader gender, or location of school in psychological capital of teachers. The only difference for leader or teacher gender was the lower number of female leaders in rural schools, with no differences noted for humility or psychological capital for gender.

Dedication

This dissertation process is dedicated to my incredible family. I am deeply grateful to my parents, who started this process long ago by inspiring me to embrace public service and specifically public education as my vocation. My father is watching me from heaven, with my mother still editing my papers, and helping me with everything. My love and deep gratitude to you both. I would not be here without you Mom and Dad. My husband John, is my greatest cheerleader and supporter, never ceasing to cook an extra dinner so I could work on school. We walked through this process together, while he was in seminary and his chaplain residency. Your confidence and love are the reason I completed this entire journey. I am deeply grateful that God sent you to walk this road of life together. To my sister Stacey and our entire extended family, I am grateful for your support and love for all of us while we worked on school. Finally, to our daughters, Jordan and Taylor, you have been our inspiration and our greatest joy. You make us want to change the world. I love you to infinity. I am so very excited to see how each of your lights shine in this next generation.

My father taught me years ago there are friends who are like family. I would not be here without the constant support of my supervisor of 26 years, mentor and friend, Dr. Karen Orcutt. Your advice to seek another program and find Bethel was right on. I hope you know that my research topic is because of you and Michelle, and your examples of humble and open leadership, as faithful pioneers changing the world one child and staff member at a time. Thank you Karen, for your continual blessing.

This work is also dedicated to all educators and leaders. Your sacrifice of time and energy for building the next generation will make this world a better place.

"He has shown you, O mortal, what is good. And what does the LORD require of you? To act justly and to love mercy and to walk humbly with your God." Micah 6:8:

Acknowledgments

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I thank God for His direction, guidance and ability to complete this doctoral work. God planted this dream. During this process, God has been teaching me to rest and let Him work, let Him do the heavy lifting. He is always faithful, answering my prayers and meeting my needs each day. I have thoroughly loved the dissertation process, which was God.

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List of Abbreviations

OECD: Organization for Economic Cooperation and Development

PCC: Pearson Correlation Coefficient

PsyCap: Psychological Capital

POB: Positive Organizational Behavior

POS: Positive Organizational Scholarship

SPSS: Statistical Package for the Social Sciences

TALIS: Teaching and Learning International Survey

Chapter I: Introduction

Over the next few decades, the workforce will become increasingly globalized, automated, and complex, demanding new leadership skills to flexibly respond to the dynamic changes and to engage in solving challenging adaptive, social problems (Anderono, Sowcik, & Balser, 2017; Owens, 2009; Vashdi, 2019; Watkins et al., 2017; Youssef & Luthans, 2012; Youssef-Morgan & Luthans, 2013). The field of K-12 education is not immune to the dynamic changes and significant challenges, including increases in teacher labor shortages, teacher attrition, technological innovations, diversity among student populations, and disparities in achievement rates (Rubinstein-Avila, 2017; Wise, 2015). School principals often report feeling overwhelmed when encountering these new challenges amid a lack of funding, intense pressure to increase students' achievement, and rising students' mobility (Wise, 2015). At the same time, teacher attrition is a growing challenge for the educational workplace, costing $2.2 billion annually and negatively impacting student achievement (Castro, Quinn, Fuller, & Barnes, 2018). Educational leaders must solve these workplace issues through increasing adaptive strategies and human capital within work teams (Bolsinger, 2015; Hess & Ludwig, 2017; Rego et al. 2019; Murphy & Seashore-Louis, 2018).

Positive leadership qualities and behaviors can lead to relational workplace climates that enhance employees' performance (Avey, Reichard, Luthans, & Mhatre, 2011; Chiu, Owens, & Tesluk, 2016; Gonçalves, & Brandão, 2017; Ou, Waldman, & Peterson, 2018; Owens, Johnson, & Mitchell, 2013). Individuals who possess a positive psychological state of development or psychological capital, which features a confluence of high levels of self-efficacy, hope, resilience, and optimism, are better positioned to contribute to positive organizational climate and employees' behaviors, attitudes, performance, and well-being (Avey et al., 2011; Dawkins,

Martin, Scott, & Sanderson, 2015; Luthans, & Youssef-Morgan, 2017; & Avolio & Gardner, 2005). Although there exists a large body of literature on the many benefits of psychological capital to organizations and employee outcomes, there are only a few studies exploring psychological capital in a K-12 educational setting (Feng, 2016; Kurt & Demirbolat, 2019; Ritter, 2018; Tosten & Toprak, 2017; Viseu, Neves, Rus, & Canavarro, 2016; Yalçin & Isgör, 2017).

One particularly promising individual trait that may lead to increased psychological capital is humility, characterized by an openness to ideas and accurate self-awareness, appreciation of others, and transcendence or focus beyond self (Gonçalves & Brandão, 2017; Li, 2016; Nielsen & Marrone, 2018; Rego et al., 2019; Wang, Owens, Li, & Shi, 2018). Leaders who exercise humility in organizational settings such as health care, sales, engineering, and finance sectors tend to also have greater psychological capital, which can promote positive organizational and employee outcomes (Rego et al., 2019). Despite the established body of research about the positive effects of leaders' humility in business settings, there is at present very little research on leaders' humility in education (Caldwell et al., 2017; Gonçalves et al., 2017; Hough, 2011; Ritter, 2018; Sowcik et al., 2017). Given the challenges that leaders in education are encountering with employees' performance, engagement, and attrition, it is important to examine whether individual traits such as leader humility are associated with principals' psychological capital. The implications for such a study include hiring and professional development practices, as well as improved work climates for staff and students. The purpose of this investigation is to explore the relationship between leader humility and psychological capital in a 6-12 educational setting.

Statement of the Problem

Leadership has never required as much organizational learning and adaptation as it does today (Bolsinger, 2015; Hess & Ludwig, 2017; Rego et al.; 2019; Murphy & Seashore-Louis, 2018). Developments in artificial intelligence, complex human problems and a dynamic global economy are resulting in workplaces characterized by ambiguity, rapid change, and a need for team interdependence and organizational learning (Anderono, Sowcik, & Balser, 2017; Owens, 2009; Vashdi, 2019; Watkins et al., 2017). Experts have conservatively predicted 60% of jobs and at least one-third of workplace activities will be automated in the near future (Manyika et al., 2017). Further illustrating the complexity of workplaces, Pew Research Center recently described dramatic increases in division of ideology of American workers (Doherty, 2017). A U.S. Census (2015) report described the current workplace as the most diverse across variables of ethnicity, race, and ideology. Researchers argue that leaders will need to adjust to this complex workplace through learning to increase adaptive and social capital within work teams (Bolsinger, 2015; Hess & Ludwig, 2017; Rego et al., 2019; Murphy & Seashore-Louis 2018).

Workplace environments for K-12 education leaders are also requiring ongoing adaptation, with teacher labor shortages, teacher attrition, human migration, and behavior and achievement disparities (Rubinstein-Avila, 2017; Wise, 2015). Only 58% of U.S. teachers reported feeling confident in adapting instruction for current multicultural environments (OECD, 2018). As a result of changing workplace environments, many scholars are suggesting leadership skills will need to be traded for skills that are better suited for a complex and uncertain world, requiring adaptive capacity and relational leadership skills across all sectors of education, faith, human services, and business organizations (Bolsinger, 2017; Hess & Ludwig, 2017; Murphy & Seashore-Louis, 2018).

Positive leadership qualities and behaviors produce relational climates with enhanced performance for employees (Avey, Reichard, Luthans, & Mhatre, 2011; Chiu, Owens, & Tesluk, 2016; Gonçalves, & Brandão, 2017; Ou, Waldman, & Peterson, 2018; Owens, Johnson, & Mitchell, 2013). Psychological capital (PsyCap) is defined as "a positive psychological state of development" (Luthans, et al., 2007, p. 542). Researchers have demonstrated the construct of psychological capital is related to positive organizational climate, positive employee behaviors, employee attitudes, performance, organizational commitment, and well-being (Avey et al., 2011; Dawkins, Martin, Scott, & Sanderson, 2015; Luthans &Youssef-Morgan, 2017; Avolio & Gardner 2005).

As early as 2009, Owens proposed that leader humility within organizations may be the key to creating the adaptive workplace needed to be able to respond to future turbulence. Historically, ethics scholars and psychologists have studied humility from theological and moral perspectives (Sowcik et al., 2017; Tangey, 2000). Academic researchers have described the psychological construct of humility as openness to ideas and others, accurate self-awareness, appreciating others, and transcendence or focus beyond self (Gonçalves, & Brandão, 2017; Li, & Shi, 2018; Nielsen & Marrone, 2018; Rego et al., 2019; Wang, Owens, Li, & Shi, 2018).

There is extensive research within the business setting regarding the effect of humility in leader-follower relationships (Goncalves et al., 2017; Rego et al., 2019; Sowick et al., 2017; Wang et al., 2018). Goncalves et al. (2017) found a positive relationship between humility in leadership and organizational creativity in follower teams. Several authors have demonstrated that leader humility created psychological safety and higher levels of creativity in teams (Nielson & Marrone, 2018; Rego et al., 2019). Leader humility was strongly related as a mediating

variable to psychological capital across health care, sales, engineering, and finance sectors (Rego et al., 2019).

Despite the developing body of research in the business setting for the positive effect of leader humility, there is a lack of research on leader humility in education (Caldwell et al., 2017; Gonçalves et al., 2017; Hough, 2011; Ritter, 2018; Sowcik et al., 2017). Scholars know very little about the relationship between a principal's humble behaviors and teachers' psychological capital. Numerous researchers suggest leader humility may create the positive and productive work climates essential for the future (Goncalves et al., 2017; Rego et al., 2019; Sowick et al., 2017; Wang et al., 2018).

Purpose of the Study

The purpose of this quantitative, cross-sectional study will be to explore the relationship between principal-leader's humility and psychological capital of teachers in a 6-12 educational setting.

Research Questions

The following research questions will guide the current investigation:

1. What relationship, if any, exists between follower-reported leader humility and follower-reported psychological capital in an educational setting?

2. What differences exist, if any, across demographic variables of leaders and followers for gender, employment duration, and region (urban, suburban, and rural)?

Significance of the Study

Psychological capital has been demonstrated to be an important variable in positive organizational climate outcomes, related to positive employee behaviors, employee attitudes, performance, organizational commitment, and well-being (Avey et al., 2011; Avolio & Gardner,

2005; Dawkins, Martin, Scott, & Sanderson, 2015; Luthans &Youssef-Morgan, 2017). Avey, Reichard, Luthans, & Mhatre, (2011) noted the impact of psychological capital in the workplace is highest in human service industries, or fields with the most contact with humanity. While humility in leadership has also been an emerging area of leadership studies, only one investigation has been conducted in a school setting (Caldwell et al., 2017; Gonçalves et al., 2017; Hough, 2011; Ritter, 2018; Sowcik et al., 2017). Little is known about the relationship between school principal's humility and the psychological capital of teachers in schools (Ritter, 2018). The present investigation is designed to fill a gap in the research literature by examining the relationship between humble behaviors of principals and the psychological capital of teachers.

Human Resource Practices. There are multiple implications for educational human resources departments. Hiring practices for both educational leaders and teachers may be better able to focus on aspects of humility, such as openness and self-awareness, rather than content-based skill sets (Hess & Ludwig, 2017; Hough, 2011). Evaluation practices could be more robust and more effective for change with the inclusion of reflection regarding the psychological capital of respective workplace environments and leader's behaviors. Modifications to both evaluation and hiring practices could be considered by school boards or hiring authorities given the research surrounding the impact of leader-behaviors on workplace empowerment and the relationship to students' achievement (Hough, 2011).

Leadership Training and Professional Development Practices. It is anticipated that this investigation will have implications for professional development of leaders, leadership hiring practices, university training programs, educational leadership practice, and leadership across contexts. The current study will fill a gap in the literature that researchers have noted

regarding humility related to productive school work climates in an educational setting (Caldwell et al., 2017; Gonçalves et al., 2017; Hough, 2011; Ritter, 2018; Sowcik et al., 2017). This investigation may be a first step in the research of antecedents regarding educational leader's humility, leading to more specific qualitative inquiry about the mechanisms of mediation, such as contagion, humility development, or the elements of humility that most affect psychological capital development.

Scholars have also suggested the inclusion of more specific training in adaptive problem solving and systems interventions, as well humility at university leadership training programs (Anderono et al., 2017; Mello, 2016; Sowcik et al., 2017). Despite the call for research and development, very little has been investigated regarding the training development or impact of these adaptive problem-solving skills for leaders (Anderono et al., 2017). Luthans & Youssef-Morgan (2017) described the initial developments in teaching the skills of psychological capital to students through traditional and novel methods of gaming instruction, but very little research has been conducted for antecedent development of psychological capital (Adil & Kamal, 2016; Avey, 2014; Bozgeyikli, 2017; Du Plessis & Boshoff, 2018).

School Climate. There are implications for leadership and creating school climates that are positively focused on solving the challenges facing education. There may be critical humble leader behaviors that foster innovative or positive work climates to produce effective team problem solving. The present investigation may increase understanding regarding effective leadership behaviors. Owens et al. (2016) described social contagion as an important mechanism related to "collective humility" (p.1091). Humble-leader behaviors, such as openness, transcendence, or accurate self-awareness may cascade to other school staff, influencing not only the work climate, but also the emotional climate of the school for students.

Problem Solving Across Sectors. Across both education and broader contexts, adaptive problems need to be solved (Andenoro, Sowcik, & Balser, 2017; Hess & Ludwig, 2017; Murphy & Seashore-Louis, 2018; Sowcik et al., 2017). Positive benefits and implications are multi-fold for discovering leader behaviors related to creating learning systems that are open to solving multi-faceted issues and finding solutions. Leaders across sectors must increase the psychological and adaptive capital within the workplace to create organizations capable of thriving and successfully navigating rapid change and complex human challenges (Bolsinger, 2015; Hess & Ludwig, 2017; Rego et al.; 2019; Murphy & Seashore-Louis, 2018).

Definition of Terms

Adaptive Leadership. "The practice of mobilizing people to tackle tough challenges and thrive" in the presence of environmental change (Heifetz et al., 2009, p. 14).

Hope. "A positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy) and (b) pathways (planning to meet goals)" (Snyder et al., 1991, p. 287).

Humility. An "accurate assessment of one's abilities and achievements, an ability to acknowledge limitations, openness to new ideas and a forgetting of the self" (Tangey, 2000, p. 73).

Optimism. A perspective of believing "specific positive events through personal, permanent, and pervasive causes and negative events through external, temporary, and situation-specific ones" (Avey et al., 2010, p. 431).

Psychological Capital (PsyCap).

An individual's positive psychological state of development that is 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 (resiliency) to attain success (Luthans et al., 2015, p. 2).

Resilience. "The capacity to rebound or bounce back from adversity, conflict, failure, or even positive events, progress, and increased responsibility" (Luthans, 2002a, p. 702).

Self-efficacy. "One's conviction (or confidence) about his or her abilities to mobilize the motivation, cognitive resources, and courses of action needed to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998b, p. 66).

Organization of the Remainder of the Study

Chapter 1 is focused on the introduction, problem statement, and the significance of educational leadership in the current context. This investigation will examine the relationship between leader-humility and teachers' perceptions of psychological capital in Minnesota secondary schools. Chapter 2 is the literature review of research related to positive psychology, psychological capital, humility, and factors related to principal leadership. Chapter 3 centers the methodological design, theoretical framework of psychological capital, research questions, hypotheses, and instruments for the investigation. Chapter 3 also describes the sampling, data collection procedures, and data analyses that will be utilized in this study as well as the limitations of the planned methodology and ethical considerations. Chapter 4 outlines the results of the study. Chapter 5 focuses on the research findings and implications for future research and leadership practices. It is hoped that the results of this investigation will help shed light on the relationship between leader-humility behaviors and psychological capital in an educational setting for the betterment of positive workplaces and ultimately, student learning.

Chapter II: Literature Review

Introduction

The purpose of this chapter is to present a review of the literature and research regarding psychological capital and humility. The literature review is focused on describing these constructs, as well as both the antecedent and outcome research regarding psychological capital and humility. A brief section regarding principal leadership and research surrounding several demographic variables for educational leaders is also included.

Background of the Study

In a recent call to leadership training centers, Anderono et al. (2017) described several of the complex, global challenges of the near future due to the rapid expansion of human population projected to grow by 23% by 2050 (United Nations, Department of Economic and Social Affairs, Population Division, 2015). The corresponding impact on food and energy resources, as well as climate changes "require significant innovation, leadership, and complex, adaptive problem solvers" (Anderono et al., 2017, p. 3). Leaders across sectors must solve these global issues through increasing adaptive capital within the workplace (Bolsinger, 2015; Hess & Ludwig, 2017; Rego et al.; 2019; Murphy et al., 2018). Nowhere is the need for adaptive leadership and human capital development as evident as in education, the sector charged with shaping the minds and behaviors of children and consequently, future leaders.

Researchers have consistently demonstrated the importance of school leadership in solving challenges (Fullan, 2007; Kershner & McQuillan, 2016; Marzano &Waters, 2009). Significant issues facing school leaders, including substantial and entrenched achievement gaps, significant staff turnover rates, and dropout rates of over one million students across the nation (Kershner & McQillan, 2016). OECD reported United States' scores for 15-year-old students on

the international PISA test have remained stagnant across both science and reading performance since 2006 (OECD Executive Summary, 2018). Heifetz stated, "progress on problems is the measure of leadership" (2009, p.15). Leadership matters in solving these challenges for students (Murphy & Louis, 2018).

Leadership is an area of continued discussion and research across business sectors and education (Anderono, et al., 2017; Bolsinger, 2015; Hess & Ludwig, 2017; Hough, 2011; Marzano & Waters, 2009; Ritter, 2018; Vashdi, 2019; Watkins et al., 2017). A simple search on the educational database ERIC Research site revealed 59, 993 research articles on educ* and leader* alone. Scholars have repeatedly observed that effective schools employ highly effective principals; and that leadership is a critical factor in student learning (Evers-Gerdes, 2019; Levin & Schrum, 2013; Supovitz & Tognatta, 2013).

Watkins et al. (2017) described the rapidly changing context in education and the necessary skills for leaders. The authors described private corporation failures due to inadequate leadership skills needed for our complex time. These include resilience, foundational ethics, emotional intelligence, adaptability and working in complex systems. Leader personal qualities, such as the ability to "suspend egos to allow opinions to be heard, self-awareness, regulation and empathy" are critical for effective leadership in today's context (Watkins et al., 2017, p. 150). There are critical differences between previous linear and hierarchical systems compared to the complex systems educational leaders are currently navigating, suggesting qualities of openness and self-awareness may be the key tools for present-day leadership success (Watkins et al., 2017).

Positive Psychology

Positive psychology is an area of growing research regarding both individual and organizational well-being (Luthans & Youssef-Morgan, 2017). Psychological capital (PsyCap) has roots in positive psychology (Luthans, Youssef-Morgan, & Avolio, 2015; Luthans & Youssef-Morgan, 2017; Murphy & Seashore Louis, 2018; Rego et al., 2019; Ritter, 2018). Positive psychology was first introduced in a presentation by Seligman to the American Psychological Association in 1989 as an alternative perspective for the work of psychologists to better focus attention on mental health and human growth (Seligman, Steen, Park, & Peterson, 2005). Rather than a disease-model emphasis for practitioners and scholars, Seligman argued time and research should be focused on healthy human development, supports, and relationships. Seligman contended that psychologists should focus on investing their time in developing positive skills, rather than ameliorating weakness or disease. Areas of study for human thriving and growth have exploded in the last 20 years on an individual level and within relational contexts (Luthans & Youssef-Morgan, 2017; Ritter, 2018).

Positive psychology is inclusive of research regarding both positive organizational scholarship (POS) and positive organizational behavior (POB) (Luthans & Youssef-Morgan, 2017). Positive organizational scholarship is the overarching area of study focused on the personal and collective dynamic of human thriving in organizations (Cameron & Caza, 2004; Luthans & Youssef-Morgan, 2017). Emphasis is placed on the study and development of optimal performance, inspiring behavior, healthy dynamics, strength, and human vitality (Cameron & Caza, 2004; Cameron & Spreitzer, 2011; Luthans & Youssef-Morgan, 2017). One of the several critical aspects of POS includes the study of positive extremes, the reframing of

negative interpretations or perspectives with the purpose of developing human growth and/or flourishing, to improve the human experience (Cameron & Spreitzer, 2011).

Luthans (2002) first defined positive organizational behavior (POB) as "the study and application of positively oriented human resources strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today's workplace" (p. 59). These are measurable, research-based, human behaviors, outcomes, or attitudes that increase the positive climate within a workplace (Luthans & Youssef-Morgan, 2017). Scholars have studied POB with the purpose of improving the organizational workplace and determining whether leader's or employee's actions influence organizational performance (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2007; Luthans & Youssef-Morgan, 2017; Ritter, 2018). An essential feature of POB is the malleable nature of human behaviors that can be enhanced by individual and manager influences, with a resultant call to leaders to invest time and energy in this development (Luthans, 2002; Luthans, 2006).

Psychological Capital (PsyCap)

Luthans et al. (2007) first conceptualized that the elements of hope, efficacy, resilience and optimism work together in a unique and positive manner to impact organizations. Psychological capital (PsyCap) reflects an individual's positive perspective of events and likelihood for attainment due to determination and persistence (Luthans et al., 2007). Luthans et al. (2015) provided further definition of individual psychological capital as

> a 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 (p. 2).

Scholars have described this concept as a synergistic whole that is greater than the sum of its parts, finding empirical support for the validity of the "higher-order construct" (Luthans et al., 2007, p. 543; Rego et al., 2019). Luthans et al. (2007) explained a "higher-order construct" connects common drives that undergird human motivation, with psychological capital best understood as "a positive appraisal of circumstances and probability for success based on motivated effort and perseverance" (p. 549-500). Youssef-Morgan (2014) later provided further clarity, describing psychological capital as an "internalized sense of agency, control, and intentionality that promotes a positive outlook, the choice of challenging goals, and the investment of energy and resources in their pursuit despite obstacles" (p. 132).

Psychological capital is a construct described of synergistic elements (Luthans et al., 2007). Luthans et al. (2007) conceptualized that psychological capital is the unique combination of the four constructs of hope, efficacy, resilience and optimism, which work together to produce motivational outcomes and impact performance. For example, optimistic self-efficacy is more powerful than only an explanatory set of optimism alone (Luthans et al, 2007). Confidence combined with optimism produces a greater effect. The combination of resilience, or the ability to bounce back, with hope, the willpower to find alternate paths, creates a synergy that cascades throughout a team or organization to produce a powerful impact on employee performance (Luthans et al., 2007).

Ritter (2018) differentiated psychological capital from other types of organizational capital, describing traditional conceptualizations of capital. Economic capital refers to owned assets, such as "equipment, patents, and data" (Ritter, 2018, p. 30). Human capital relates to

employee knowledge/skills or training, with the social capital incorporating the relationships and social networks within an organization. Psychological capital is described as the combined level of hope, efficacy, resilience and optimism for an individual (Ritter, 2018). Figure 1 illustrates the construct of psychological capital, with detailed areas of outcome research, potential antecedents, mediating variables, as well as the continuum of state and trait across individual to organizational impact (Luthans & Youssef-Morgan, 2017).

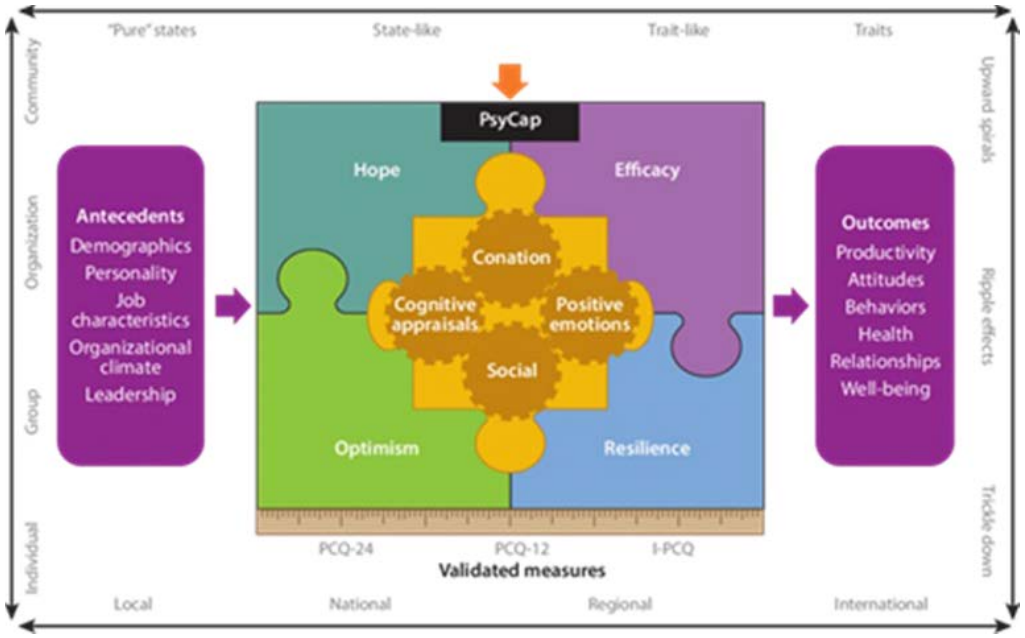

Figure 1: Psychological Capital (Luthans & Youssef-Morgan, 2017)

Substantial research exists for each of the four psychological capital construct elements displaying independent features and interdependence or commonality, which researchers have described as a "higher order construct" (Luthans et al., 2007, p. 543). Scholars have demonstrated that while each of the components displayed "separate discriminant validity" across numerous investigations, there is evidence for the existence of a core construct of psychological capital (Luthans et al., 2007, p. 549).

Hope. As early as 25 B.C., the Greek poet, Pindar conceptualized hope as a state of thinking, explaining it was "hope, who chiefly ruleth the changeful mind" (Pindar, trans, 1961, p. 611). While hope may have connotations as wishful thinking or a positive disposition, hope has been studied across numerous fields, such as theology, medicine, psychology and others, as both a cognitive and spiritual process (Synder, et al., 1991; Miller, 2002). Recently, Pope Francis and the Catholic Church (2013) published a text capturing the church leader's messages of hope in Christ while living in a fallen world. This connotation of hope as remedy to evil is similar to the early Greek story of Pandora and her box. With only hope left in the box, hope requests escape, to help humanity from the liberated evil and disease (Miller, 2002). Miller's (2002) definition of hope is human flourishing amidst extreme circumstances, of believing in a brighter tomorrow, despite the darkness of today, a spiritual antidote and provider of meaning. Frankl (1992) also described hope as a transcendent and powerful pattern of thinking, despite living within a concentration camp, of "loving contemplation… in a position of utter desolation" (p.36). Frankl (1992) depicted hope as an avenue to meaning, of understanding life beyond the self.

Psychological capital researchers have defined hope as both a state and dispositional cognitive process, but without focus or measurement on a transcendence aspect (Lopez, 2013; Luthans et al., 2015; Ritter, 2018; Snyder et al., 1991). Lopez (2013) argued that hope is a future-oriented thinking pattern linked to choices and not a belief with mystery. In the development of an instrument to measure hope thinking, Snyder et al. (1991) described hope as "a positive motivational state that is based on an interactively derived sense of successful (a) agency (goal-directed energy) and (b) pathways (planning to meet goals)" (p. 287). These two separate patterns of thinking regarding positive goal setting/agency and the ability to discern

alternate paths despite obstacles are the two main elements of psychological capital-hope (Luthans et al., 2015; Ritter, 2018; Snyder et al., 1991).

Luthans et al. (2015) defined psychological capital-hope as the agency to "carry out your willpower… to know the pathways to your goals and have determined proactively alternative pathways when the way is blocked. In other words, you have to have both the willpower and the pathways (i.e., the "will" and the "way") to have a high level of hope to accomplish your goals successfully" (p. 79). The second element of hope regarding the discernment of alternative pathways when original plans are blocked is a crucial component of psychological capital-hope (Luthans et al., 2015; Snyder, 1995; 2002; 2010; Snyder, Ilardi, Michael, & Cheavens, 2000; Snyder, Rand, & Sigmon, 2002). Lopez (2013) described the interaction of the two elements of willpower toward goals and the creation of alternative pathways as an uplifting cognitive process.

Scholars have researched hope as a variable in both work and academic performance. Scholars reviewed recent investigations on the impact of hope across sectors and variables (Lopez, 2013; Rand & Cheavens, 2009; Luthans et al., 2015, Lopez, 2013; Snyder, 2000). Researchers have demonstrated the importance and benefits of hope across athletic and workplace performance, mental health, well-being, and coping (Lopez, 2103; Luthans et al., 2015). In a review of the impact of hope in education, Lopez (2013) studied over 50 investigations that demonstrated a significant, predictive relationship between student achievement and hope. The author also added to the conceptualization of hope when studying youth, suggesting that the essential elements of hope include a powerful or energizing goal, both the will and vision to see alternative pathways, but also a positive relationship to applaud the smaller steps in the journey. Job satisfaction, work performance, engagement and even

profitability have all been shown to be positively related to hope in the business setting (Adams et al., 2002; Ouweneel, Le Blanc, Shaufeli, & van Wijhe, 2012; Youssef & Luthans, 2007). In studying organizational impact, Youssef & Luthans (2007) demonstrated positive relationships between psychological capital-hope and job contentment, commitment, and happiness.

Psychological capital-hope has also been explored as variable in organizational leadership (Avolio & Luthans, 2006; Luthans & Avolio, 2003; Luthans, Norman, & Hughes, 2006; Luthans et al., 2015; Ritter, 2018). Investigators have demonstrated the positive relationship between hope-filled managers with work performance and quality across both finance and service industries (Luthans, Avolio, Walumbwa, & Li, 2005; Peterson & Byron 2008). Leader's hope was negatively related to retention, as well as positively related to employee self-reported hope and job satisfaction (Peterson & Byron, 2008). Peterson and Luthans (2003) observed leader-hope was positively related to enhanced performance, retention, and attitude toward job in the fast-food industry. Ritter (2018) noted hope as an element of psychological capital related to enhanced principal-leadership skills. Scholars have suggested a critical factor in developing hope in organizations is leader behaviors (Luthans et al., 2015). Luthans et al. (2015) provided 12 steps toward hope facilitation that leaders can implement through setting goals that are both reachable and aspirational, and breaking down goals into smaller steps with rewards. Steps included cognitive rehearsing of mindset and reframing of challenges, practicing persistence rituals, training, and examining resources.

Numerous researchers have noted the positive relationship between psychological capital-hope and authenticity in leaders (Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans, Avey, Avolio, & Peterson, 2010; Luthans, Luthans, & Avey, 2014; Walumba, Luthans, Avey, & Oke, 2011). Luthans et al. (2015) suggested that the hope is facilitated through

leadership by creating a "culture of transparency and authenticity" (p. 97). Leaders who thrive in policies and procedures may smother hope and creativity, while leaders who develop the will to find alternative pathways when solving problems in an open and transparent manner may be better equipped in the rapidly changing workplace (Luthans et al., 2015).

Efficacy. A second cognitive process of psychological capital is the belief in self-effectiveness or efficacy. Bandura (1997) conducted extensive research and analysis of human behavior, positing the importance of an individual's belief in how effectively a person can accomplish a given task. A common definition of psychological self-efficacy is "one's belief about his or her ability to mobilize the motivation, cognitive resources, and courses of action necessary to execute a specific action within a given context" (Stajkovic & Luthans, 1998b, p. 66). Luthans et al. (2015) interchangeably utilized the terms efficacy and confidence. Self-efficacy is the individual confidence or belief in self-performance. In further construct definition, several authors (Luthans et al., 2015; Ritter, 2018) described critical components of psychological capital self-efficacy such as setting aspirational goals regarding challenging tasks and thriving in difficulty or adversity through both self-motivation and persistence. Employees with high self-efficacy thrive in challenge and are not in need of high degrees of external motivation, but rather are internally motivated by difficulty (Bandura & Locke, 2003; Luthans et al., 2015).

Bandura's (1986) work in social learning theory is the basis of the cognitive process of efficacy. Five cognitive elements of self-efficacy include "symbolizing, forethought, observation, self-regulation, and self-reflection" (Luthans et al., 2015, p. 50). These thinking patterns relate to a positive mindset and planning of future performance as successful, as well as vicarious learning over time (Luthans et al., 2015). Reflection on previous performance works

together with mindset and planning to form the foundation of the cognitive process (Luthans et al., 2015). Luthans et al. (2015) also described the domain-precision nature of efficacy, in addition to describing self-efficacy as malleable, variable, and influenced by others' feedback.

Efficacy has been extensively studied as a variable in work and academic performance (Luthans et al., 2015). Scholars separately conducted meta-analyses of 114 and 118 self-efficacy studies noting the strong and positive relationship between efficacy and numerous variables related to work performance (Stajkovic & Luthans, 1998; Stajkovic, Lee, & Nyberg, 2009). Investigators have discovered self-efficacy is positively related to outcomes such as job satisfaction, workplace attitude, creativity, health, motivation, and performance (Luthans et al., 2017). Scholars have repeatedly demonstrated workplace performance is impacted by the individual confidence and belief in capabilities, especially in the face of challenges (Luthans et al., 2015).

Research regarding the importance of self-efficacy and leadership in the workplace is also abundant (Wood & Bandura, 1989; Chemers, Watson, & May, 2000; Hannah, Avolio, Luthans, & Harms, 2008; Luthans, Luthans, Hodgetts, & Luthans, 2001; Youssef & Luthans, 2012; Sun, Chen, & Zhang, 2017). Hannah et al. (2008) complied a review of leadership and self-efficacy studies finding leader efficacy positively related with outcomes in organizational performance, job effectiveness ratings by followers, and employment aspirations. The researchers concluded that leaders who display self-efficacy are "oriented toward growth and engagement in challenges" and are more "likely to bring about these same outcomes in those they lead" (Hannah et al., p. 20). In an often-quoted, two-part empirical study with ROTC military cadets, Chemers et al. (2000) described cadet self-efficacy as related to both military teacher pre-graduation report and later supervisor-reported leadership skills post-graduation, with

other variables such as self-esteem not significantly related. The authors concluded that leaders who displayed the highest measured-confidence by military teachers were later described as significantly higher in performance situations than those cadets rated with less self-efficacy. Similarly, in examining complex leader decision-making and cognitive processes in an experimental design, Wood & Bandura (1989) found leader self-efficacy, or belief in their ability to influence organizational factors, positively predicted positive setting of goals and performance in simulations.

Luthans et al. (2015) also reported mechanisms and supports that leaders can employ to develop self-efficacy in followers. The foundations of these are based in Bandura's (2009) social learning theory, with modeling and mastery of tasks as critical mechanisms through which individuals develop self-efficacy. There is extensive research that humans develop confidence and belief in skills through experiences in modeling or vicarious learning, practice, and mastery (Bandura, 2009; Luthans et al., 2015). Supports of positive feedback and social persuasion also add to self-efficacy development through other's encouragement, attention, and positive reinforcement. Luthans et al. (2015) reported both psychological and physical factors influence the development of self-efficacy development through energy, arousal, fitness and other positive psychological factors such as self-reflection, and general mental health.

Scholars have also examined the construct of collective efficacy in organizations (Bandura, 1997; Luthans et al., 2015; Walumba, Wang, Lawler & Shi 2004). Bandura (1997) was the first to suggest the construct of collective efficacy, defining the construct as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 477). Walumba et al. (2004) investigated collective

efficacy, finding positive relationships with job satisfaction and commitment, and negative relationships with attrition.

Resilience. As an aspect of psychological capital, Luthans (2002) defined resilience as "the capacity to rebound or bounce back from adversity, conflict, failure, or even positive events, progress, and increased responsibility" (p. 702). Masten (2001) described resilience as "ordinary magic," noting that resilience is "made of ordinary rather than extraordinary processes and offers a more positive outlook on human development and adaptation" (p. 227). Masten (2001) studied the characteristics of resilient individuals and factors that lead to the development of resilience. In later developing a conceptual framework of resilience, Masten, Cutuli, Herbers, & Reed, (2009) refined and simplified a resilience definition as "positive adaptation in the context of significant challenges" (p. 5). Masten (2001) observed that individuals with highest resilience displayed enhanced skills in coping across life circumstances, especially in adjusting to high-risk or threatening situations. Luthans, Vogelgesang, & Lester (2006) reinforced the idea of resilience not being extraordinary, but rather a capacity that is malleable for all of humanity to develop.

Resilience has been studied in the workplace, particularly in military or post-combat settings (Luthans et al., 2015). The focus of these studies has been on coping and adaptive health following traumatic events. However, scholars have argued the need to examine more broadly workplace resilience to better understand the circumstances and development of this powerful capacity across organizations (Luthans et al., 2015, Ritter, 2018). In fact, Luthans et al. (2015) suggested the current context of rapid change and chaotic environments has increased the need for adaptive coping and resilient workers across workplace environments. Numerous studies have examined leader resilience impact on organizations (Luthans et al., 2015; Masten et al.,

2009). Researchers have demonstrated resilience as a predictor of positive workplace outcomes and workplace development (Luthans et al., 2006; Luthans et al., 2007).

Developing resilience has been an area of critical research (Luthans et al., 2015; Wolin, & Wolin, 2005). Positive psychologists have argued that resilience is a learnable asset, a capacity to be developed (Masten, 2001; Luthans & Youssef-Morgan, 2007). Luthans & Youssef-Morgan (2007) argued that resilience as a capacity that can be enhanced through growth in adversity and increasing adaptive, coping mechanisms during both positive and negative life events. Luthans et al. (2006) suggested that resiliency development centers on helping employees find the path to who they can become. Klocko, Justis & Kirby (2019) conducted a phenomenological study of resilience and K-12 school superintendents, reporting the developing nature of resilience over time in the face of adversity. The authors suggested openness to new ideas and learning core skills are the keys to developing the grit needed for school leadership (Klocko et al, 2019).

Optimism. Optimism is best conceptualized as an expectation of positive thinking in both victory and obstacles, not the typical understanding of glass half-full versus half-empty distinction (Seligman, 2009). Seligman (2009) elaborated on his definition, that those with optimistic mindsets approach adversity as temporary, limited, and changeable. Victories can have a far-reaching effect, lasting in length and related to personal effort. In contrast, those with a pessimistic disposition view setbacks as permanent, unchangeable, and related to internal factors, and victories as accidents, temporary, and transient. This explanatory set of past, present, and future circumstances has broad impacts compared to a state-like thinking pattern (Seligman, 2009). Scheier's & Carver's (1985) definition of optimism is a positive, "generalized outcome expectancy" (p. 219). Sweetman, Luthans, Avey and Luthans (2010) described

optimism as an "expectancy framework" (p. 7). Scholars have explained these attribution states cascade, as optimists create cognitive momentum with positive expectations that increase their future coping, while pessimistic attitudes are fraught with expectations filled with self-doubt and negativity (Carver & Scheier, 2002, Luthans & Youssef-Morgan, 2007).

Positive psychologists have argued for the state of optimism versus dispositional trait, as optimism is malleable and not a fixed construct (Luthans, 2002; Luthans et al., 2005; Luthans et al., 2015; Scheier & Carver, 1985; Seligman, 1998, 2009). Numerous scholars have also described optimism as an openness to change (Luthans et al., 2005; Luthans et al., 2015; Luthans & Youssef, 2007; Seligman, 1998; Youssef-Morgan, 2014). Seligman first coined the term "learned optimism" (Seligman, 1998, Location 55), arguing expectancy frameworks can be altered or learned.

The continuum of optimism-pessimism has been studied extensively, as Luthans et al. (2015) reported three separate meta-analyses of optimism related to thriving (Alarcon, Bowling, & Khazon, 2013; Andersson, 1996; Rasmussen, Scheier, & Greenhouse, 2009). Optimism was described as a protective factor related to physical health, finding a strong relationship across 132 studies (Rasmussen et al., 2009). Disease, mortality, pain, and physical symptoms were all significant for relationship to an expectation of positive outcome. Researchers have also noted optimism as strongly related with coping skills across 56 investigations (Andersson, 1996).

Scholars have also examined state optimism as a variable within both work and academic performance (Avey et al., 2011; Luthans et al., 2015, Seligman, 1998). State optimism is contrasted to trait optimism based on the changeable nature of optimism, rather than a permanent explanatory, thinking pattern (Luthans et al., 2015, Seligman, 1998). Seligman's (1998) early work focused on studying the impact of optimism in the sales environment. A critical finding of

this early research centered on salespersons with higher self-reported optimism sold more items than those with reported pessimism. Investigators have demonstrated a positive relationship between optimism and authentic leadership in the workplace (Avey, Avolio, & Luthans, 2011; Walumba, Luthans, Avey, & Oke, 2011). For example, in an experimental design with 106 engineers randomly assigned to complex and simplex problem-solving tasks, Avey et al. (2011) observed a positive and significant correlation between leader hope/optimism and follower performance, as well as follower hope/optimism. The investigators also noted a negative relationship existed between problem difficulty and positivity of employees. Authentic leader's display of higher degrees of self-awareness and transparency impacted optimism in followers (Avey et al., 2011). Luthans et al. (2015) also described the mechanism of leader-optimism, stating optimistic leaders focus on both self and other development, building others for the sake of the organization. Similarly, Norman, Avolio, and Luthans (2010) suggested optimistic leaders empower followers with optimism and build skills to be engaged in the organizational work. Avey, Avolio, Crossley, & Luthans (2009) found employees with greater optimism also had increased ownership of the organization and were more open to working outside of a limited job description for a greater purpose.

Optimism development and state-like properties have also been explored, with cognitive reframing at the heart of breaking pessimistic mindsets (Luthans et al., 2007; Luthans et al., 2015). Luthans et al. (2015) presented three alternative patterns of thinking to assist in the development of optimism: reframing the past, focusing on the positive in the present, and opportunities in the future. For example, rather than viewing a previous challenge as a personal failure, focusing on external attribution and understanding grace are critical mindsets to develop

optimism. Luthans et al. (2015) suggested cognitive patterns of reframing events in the present and future create positive momentum for an optimistic explanatory style.

Psychological Capital Outcomes

Researchers have investigated positivity outcomes, specifically the psychological capital construct of hope, optimism, efficacy, and resilience across multiple sectors, repeatedly demonstrating the predictive relationship with positive outcomes in attitudes at work, behaviors, well-being, workplace safety, relationships, and overall health (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2007; Luthans, Youssef, Sweetman, & Harms, 2013; Luthans et al., 2015; Mello, 2013). Psychological capital has been discovered to mediate the correlation between positive organizational climates and organizational performance (Luthans, Norman, Avolio, & Avey, 2008). Youssef-Morgan (2013) developed a positivity model to conceptualize the impact of positivity to work, health, and greater relationships.

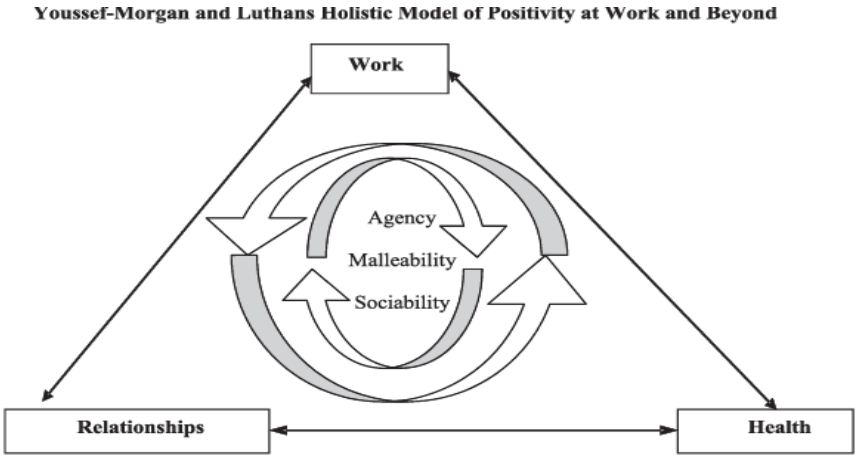

Figure 2: Model of Positivity at Work and Beyond (Luthans & Youssef-Morgan, 2013)

Luthans, Youssef, Sweetman, & Harms (2013) demonstrated the strong relationship between psychological capital and both general health and relationships. The authors posited psychological capital outcomes exist across three domains: work, relationships, and health.

Luthans et al. (2013) noted negative relationships to body mass index (BMI) and high cholesterol, and positive connections with overall relationship satisfaction.

Psychological Capital Workplace Outcomes. Most of psychological capital researchers have focused on examining outcomes in the workplace (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2007; Luthans et al., 2005; Luthans et al., 2015; Mello, 2013; Ritter, 2018). Organizational focus on psychological capital has been suggested as a means of reducing cost of millions of dollars related to absenteeism and attrition (Avey, Patera & West, 2006). Absenteeism was negatively related to psychological capital, with job satisfaction and commitment positively related to psychological capital. Psychological capital has been found to be strongly related to positive employee attitudes, behaviors, job satisfaction, safety, organizational commitment, and performance (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2005; Luthans et al., 2007; Luthans & Youssef-Morgan, 2017; Stratman & Youssef-Morgan, 2019). Scholars have also noted the negative relationship between psychological capital and employee attrition, absenteeism, negative or cynicism attitudes toward work and negative work behaviors (Avey et al., 2001, Luthans & Youssef-Morgan, 2017; Rehman, Qingren, Latif, & Iqbal, 2017). Researchers have recommended investigation into the etiology and mitigation of absenteeism and other workplace problems, suggesting intervention in psychological capital enhancement by employers (Avey et al., 2006).

In the seminal investigation of psychological capital, Luthans et al. (2005) studied 442 factory Chinese workers to explore factors related to positive psychology. The researchers argued psychological capital, as a combination of hope, optimism, and resilience, was the energy of relationship-growth and performance-enhancement. The authors compared ratings from supervisors and employee's self-reports of psychological capital. The investigators found

workers' separate and combined states of hope, optimism, and resiliency, and psychological capital, positively correlated with their performance, as rated by their supervisors. Luthans et al. (2015) also discovered a significant and positive relationship between employee psychological capital and the outcome variable of salary.

Avey, Reichard, Luthans, & Mhatre, (2011) conducted a meta-analysis across 51 studies of psychological capital in the workplace, finding strong evidence for the existence and importance of the construct, describing strong and predictive relationships between psychological capital and both positive employee's attitudes and behaviors. Negative relationships were noted between psychological capital and negative or cynical attitudes and behaviors of employees. Interestingly, positive relationships were strongest in human service industries, noting the importance of management attention to psychological capital as an important construct. Psychological capital was strongly related to work performance. Future research was also suggested to explore leader behaviors that develop psychological capital, as well as investigate other outcomes. (Avey et al., 2011).

In a more recent meta-analysis, Luthans & Youssef-Morgan (2017) found strong evidence for the existence and importance of psychological capital, describing strong and predictive relationships between psychological capital and both positive employee's attitudes and behaviors. Negative relationships were noted between psychological capital and negative or cynical attitudes and behaviors of employees, such as depressive emotion and workplace stress. (Lui, Chang, Fu. Wang & Wang, 2012).

Outcomes related to employee safety have been an area of recent inquiry (Broad & Luthans, 2017; Stratman & Youssef-Morgan, 2019). Stratman & Youssef-Morgan (2019) utilized a quasi-experimental design to investigate the relationship of psychological capital and

workplace safety and negative employee attitudes, such as cynicism. In examining the prevention of workplace injuries and unsafe behaviors through increasing psychological capital, the authors assigned employee volunteers to control and treatment groups, with treatment group receiving a 90-minute intervention for increasing psychological capital. The intervention was focused on describing the four elements of psychological capital, then both individual and group development of a safety goal, considering obstacles and alternate pathways. The intervention ended with a message of positivity regarding safety. Survey results on cynicism, workplace safety and psychological capital between two months showed significant differences between groups, with the psychological capital intervention yielding increases in self-report of psychological capital, lessening reported cynicism, as well as significantly reducing self-reported unsafe workplace behavior. The authors argued these results further demonstrate the malleability of psychological capital and the critical importance and implications of positivity in the workplace (Stratman & Youssef-Morgan, 2019).

Psychological capital mediation of job performance has also been explored (Alessandri, Consiglio, Luthans, & Borgogni, 2018; Rehman, 2017). Alessandri et al. (2018) studied job performance from supervisor-report and the relationship of both employee, self-report psychological capital and work engagement. The authors discovered that "both absolute levels and increases in psychological capital predicted subsequent work engagement increases, which in turn predicted job performance increases" (p. 33). Alessandri et al. (2018) stressed the importance of increasing psychological capital as a means to impact organizational improvement. Rehman et al. (2017) investigated the relationship between burnout and psychological capital in a technical environment for professional faculty. The researchers found psychological capital was a critical factor in workplace burnout, as well as job performance,

arguing the construct should be incorporated as part of both the hiring, retention and evaluation process. Psychological capital was negatively related to workplace burnout and job performance (Rehman, et al., 2017).

Antecedents of Psychological Capital

Researchers have also explored the antecedents related to psychological capital (Adil & Kamal, 2016; Avey, 2014; Bozgeyikli, 2017; Du Plessis, & Boshoff, 2018). Most of the antecedent literature centers on leader personality and leadership theory (Adil & Kamal, 2016; Avey, 2014; Chen, Wen, Kong, Niu, & Hau, 2017). Avey (2014) examined the antecedents of psychological capital through two studies as a follow-up to a meta-analysis, concluding that little had been studied regarding the antecedents of psychological capital. Consequently, Avey conducted two investigations across China and the US in the technology and engineering fields, reporting significant predictive power between leader authenticity and psychological capital across both studies, and concluding antecedents may not only be single-faceted. Similarly, Bozgeyikli (2017) studied the construct of psychological capital in relationship to the Big 5 Personality test with teachers in Turkey, finding a strong relationship between openness, extraversion, agreeableness, and psychological capital.

Adil and Kamal (2016) investigated the relationship between psychological capital, authentic leadership, well-being and work engagement for 500 college professors in Pakistan. The authors reported psychological capital was strongly related to authentic leadership, well-being and work engagement. Similarly, Du Plessis & Boshoff (2018) conducted a quantitative investigation of the relationship between psychological capital and work engagement of 647 work managers in South Africa, finding a .578 relationship between psychological capital and work engagement for participants, with authentic leadership noted as the mediating variable. In

an experimental analysis, Avey Richmond & Nixon, (2012) studied leader psychological capital impact on follower psychological capital and creativity. In the empirical study, the researchers demonstrated the significance and impact of leader psychological capital on follower psychological capital, as well as on follower creativity when completing a task. Participants with low self-esteem displayed higher impact compared to those with higher self-esteem. Avey, Avolio and Luthans (2011) also investigated leader positivity with an experimental design of low and high positivity leaders in engineering, observing a strong relationship between leader positivity and follower performance.

Authentic Leadership and Psychological Capital. Positive psychologists Lyubomirsky, King and Deiner (2005) extensively reviewed the experimental literature across a variety of methodologies to investigate happiness and success, reporting on numerous factors associated with leadership. Psychological capital has been studied in the context of authentic leadership (Avey, 2014; Avey et al., 2012; Avolio & Gardner, 2005; Clapp-Smith, Volgelgesang, & Avey, 2009; Walumba et al., 2011; Youssef-Morgan & Luthans, 2013b; Zamahani, Ghorbani, Rezaei, 2011). Leader psychological capital cascades in organizations, with "CEO's psychological capital predicting the performance of both start-ups and established high-technology firms; and top management teams' collective psychological capital predicts strategic business unit performance" (Youssef-Morgan & Luthans, 2013b, p. 199). In an investigation to fill the reported void of examining antecedents of psychological capital in organizations, Avey (2014) pointed to authentic leadership as a mediator, as 32% of the variance related to psychological capital predicted by authentic leadership, with self-awareness and transparency mentioned as the authentic leader behaviors. A positive relationship may also exist between psychological capital, trust and leader authenticity (Clapp-Smith et al., 2009; Du Plessis &

Boshoff, 2018; Zamahani et al., 2011). Other scholars also noted a strong, positive relationship between psychological capital and authentic leadership, while also reporting no systematic differences for gender of leader (Caza, Bagozzi, Woolley, Levy, & Barker Caza, 2010). Avey et al. (2012) explored causality between psychological capital and leader authenticity, empirically demonstrating the impact of leader psychological capital on both follower creativity and psychological capital, describing a possible contagion effect, especially with participants with self-reported lower self-esteem.

Psychological Capital and Education

Comparatively few investigations have examined psychological capital in educational settings (Feng, 2016; Kurt & Demirbolat, 2019; Ritter, 2018; Tosten & Toprak, 2017; Viseu, Neves, Rus, & Canavarro, 2016; Yalçin & Isgör, 2017). Feng investigated the relationship between authentic, principal leadership and the psychological capital of teachers. Feng surveyed 1429 teachers in China finding a positive relationship between psychological capital and principal authenticity. Yalçin & Isgör (2017) studied teachers in Turkey, finding a positive relationship between teacher psychological capital and quality of a teacher's professional life. Kurt & Demirbolat (2017) also reported teacher description of high psychological capital in the workplace was related to both high report of job satisfaction and well-being. Similarly, Tosten & Toprak (2017) noted the impact of high level of psychological capital in Turkish teachers, as well as the positive relationship between teacher psychological capital and emotional regulation of behaviors. In a review of the literature, Viseu et al. (2017) studied 43 articles regarding teacher motivation and job satisfaction, with the researchers reporting the importance of psychological capital as a construct for education and suggested further research with teachers.

Ritter (2018) investigated the relationship between the psychological capital of the principal and the school culture. Ritter employed a mixed-method of survey of staff and principals, as well as subsequent interviews of principals. Ritter studied psychological capital as the mediating variable in school climate, finding hope as the single element related to school culture. Several scholars have suggested further investigations in educational settings, critiquing the current research for both limited focus and limited number of scholars (Ritter, 2018; Yadav & Kumar, 2017).

Psychological capital researchers have demonstrated construct validity, numerous and repeated correlational studies and even empirical impact to many critical and positive outcome variables for both individuals and organizations (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2007; Luthans et al., 2008: Luthans, Youssef, Sweetman, & Harms, 2013; Luthans et al., 2015; Mello, 2013). While there has been a great deal learned about the effect of psychological capital across industries, there is still much to learn about the dynamics related to leader development and the relationship to this important organizational variable. One such promising leader attribute related to openness and the growth of positive team dynamics is humility (Neilson & Marrone, 2018).

Humility

Scholars have historically explored humility from theological perspectives across faith traditions and from ethical and psychological points of view (Collins, 2005; Neilson & Marrone, 2018; Sowcik et al., 2017; Tangey, 2000). In the seminal work on the construct of humility, Tangey (2000) challenged the definition and connotation of humility as modesty or low self-concept, contrasting definitions of unworthiness with humility as a construct of more "accurate assessment of one's abilities and achievements, an ability to acknowledge limitations, openness

to new ideas and a forgetting of the self (p. 73). This harkens to a conceptualization provided by Lewis (1952) of humility as "not thinking less of yourself, but thinking of yourself less" (p. 122). Ou et al. (2014) suggested the humble person's approach to the world with "a self-view that something greater than the self exists" (p. 37). Humility has been reported as a protective capacity from issues of narcissism and pride, as well as a strategy to enhance pro-social behaviors (Jankowski, Sandage, & Hill, 2013; Neilson & Marrone, 2018; Owens et al., 2013). Neilson & Marrone summarized that "rather than having an excessive focus on oneself and one's positive qualities, humble individuals acknowledge their limitations alongside their strengths, seek diverse feedback and appreciate contributions from others" (p. 1).

Definition of Humility. Academic researchers have attempted to describe the psychological construct of humility as a personal characteristic, as well as the application for leadership (Caldwell, Ichiho, & Anderson, 2017; Gonçalves & Brandão, 2017; Hough, 2011; Owens, Johnson, & Mitchell, 2013; Oyer, 2015; Sowcik et al., 2017; Wang, Owens, Li, & Shi, 2018). Caldwell, Ichio and Anderson (2017) synthesized the business literature on humility in leadership to create twelve dimensions on the construct of humility and leader behaviors that contribute to the success of an organization. These include self-awareness, teachability, knowing personal limits, passion for learning/openness, and dedication to a higher or transcendent cause, individual accountability, sharing credit, empowering and serving others, grasping the bigger picture, and commitment to ethical ideals.

Neilson and Marrone (2018) found four main components of humility across the research literature: accurate perception of self, openness or teachability, appreciating others, and transcendence or a perspective of focus outside of self on something larger than the self. Two of the most common themes across multiple definitions center on openness to new learning and

ideas, as well as an accurate and objective view of self (Caldwell et al., 2017; Hough, 2011; Owens, 2009, Owens et al., 2011; Owens et al., 2013; Owens et al., 2016; Owens et al., 2018; Wang et al., 2018). Neilson and Marrone (2018, p. 5) synthesized the definitional components in a frequency table for number of studies including each element in Table 1.

Table 1

Definitional Components of Humility across Research (Neilson and Marrone, 2018)

Theorized Definitional Component	Frequency Count of Articles
Accurate Self-Awareness	11
Openness/Teachability	6
Appreciation of Others/Ideas	5
Transcendence Perspective	5
Low Self-focus	3
Self-transcendent Purpose	1
No Desire for Control	1
Collective Orientation	1
Recognition of Luck/Fortune	1
Lack of Concern for Superiority	1

Awareness of self-strengths, limitations, and accomplishments appear important in order to fairly acknowledge the roles of others and provide credit to co-workers. In examining the relational capital and results from leader humility, Wang et al. (2018) suggested that humility is expressed and observed by leaders acknowledging their own "mistakes and limits, directing attention to others' unique strengths and contributions, and being constantly open to feedback, advice, and new ideas" (p. 1021). All 11 articles reviewed by Neilson & Marrons (2018) described accurate self-awareness as a critical component of humility. The combination of admitting mistakes while possessing a realistic and accurate view of strengths and limitations appears as a fundamental aspect of humility (Neilson & Marrone; 2018; Owens et al., 2011; Owens et al., 2013; Owens et al., 2016; Wang et al., 2018).

Another definitional aspect of humility centers on the loci of ambition and humility (Brosnan, 2015; Caldwell et al., 2017; Hough, 2011; Owens et al., 2011; Owens et al., 2013; Owens et al., 2016). Neilson and Marrone (2018) termed this component transcendence, although pointed to the lack of agreement on the exact definition of the component. Historical explanations of transcendence have a religious or nature focus, with more contemporary views focusing on the belief of self with the context of something larger. Morris, Brotheridge, & Urbanski (2005) described this as an "understanding of the small role that one plays in a vast universe" (p. 1331). Researchers described an element of humility as leader ambition for the organization, rather than self. Owens et al. (2013) suggested transcendence exists within a relational context. In the leadership context, transcendent leaders were reported as focused on the positive results of the institution and not self-interest.

Openness to others and others' ideas was a third component described within the construct of humility (Neilson & Marrone, 2018; Owens et al., 2011; Owens et al., 2013; Owens et al., 2016; Wang, 2016). Humble individuals demonstrate teachability or the inclination to listen to others, be open to other's views and a willingness to learn from others (Neilson & Marrone, 2018; Ou et al., 2014; Owens et al., 2011; Owens et al., 2013; Owens et al., 2016). Theorists have suggested setting aside self or ego may be the root of openness to others or the desire to learn from others (Ou et al., 2014; Tangey, 2000).

Similarly, scholars also described empowerment and appreciation of others as a critical element of the construct of humility (Brosnan, 2015; Caldwell et al., 2017; Hough, 2011; Neilson & Marrone, 2018). The ideas of shared power, supportive empowerment in mutual interdependence were notable descriptors of the humility construct. Collins reported humility, or ambition for the organization rather than self, was the single most critical attribute in

differentiating top leadership talent (as cited in Brosnan, 2015). Brosnan (2015) suggested humility as an essential in talent recruitment and development. Collins (2005) original Level 5 leader distinction described those rare leaders as possessing unique qualities of humility, such as giving credit away in success and not blaming others for failures.

Neilson & Marrone (2018) synthesized the research on the topic of humility conducted since 2000. The authors provided a compelling picture of the growing body of research on the importance of humility, presenting the current understanding of both expressed humility that is observable and internal humility in thoughts and feelings. Both mediating variables and potential personal and organizational outcomes were also synthesized and organized across research to provide a clear summary of all findings from humility investigations. Strong research was noted for relationships of humility to personal impact such as emotional health and team impacts, such as increased psychological capital in teams. Organizational impact and the relationship between humility and leader behaviors was also present across numerous studies. Future research was suggested for examining the impact of humility across the topics of personal, team and organizational outcomes. The authors described the need for further research to study the impact of humble-leader behaviors creating conditions for the formation of collective humility in teams. The authors stated, "it remains unclear … why or how humble individuals are more likely to find strengths in others, and … look past one's self-interest" (Neilson & Marrone, 2018, p. 16). The authors suggested future research be considered to study leader behaviors, as the authors "suspect that such approaches would uncover humility as embedded in ways of being and relating to others that illuminate interdependencies and intersubjectivity, make meaning of hierarchy, facilitate empathy in small moments, and foster the acceptance of limits" (Neilson & Marrone, 2018, p. 16).

Humility Outcomes

Neilson and Marrone (2018) compiled the research regarding the outcomes of humility at the individual, team, and organizational level. Most of the empirical findings have focused on the individual level, such as social relationships, well-being, and learning or performance variables (Exline 2012; Oyer 2011). Lower reports of depression (Krause, 2014) and increases in positive emotional states (Exline, 2012), workplace satisfaction, academic performance in grades (Rowatt, Powers, Targhetta, Comer, Kennedy, & LaBouff, 2006), and resilience were related to individual humility (Owens & Hekman 2012; Neilson & Marrone, 2018). Other pro-social skills demonstrated as positively related to humility included: generosity and kindness (Exline, 2012), helpfulness (LaBouf, Rowatt, Johnson, Tsang, & Willerton, 2012), forgiveness (Exline et al., 2008), and relational acceptance (Peters, Rowat, & Johnson, 2011).

Scholars have established humility as correlated to numerous positive outcomes for both teams and organizations (Neilson & Marrone, 2018; Rego et al., 2018). Humble leaders' behaviors have been observed to be related to "greater perceptions of leader effectiveness and transformational qualities by their followers" Neilson and Marrone, 2018, p.12). Rego et al. (2016) discovered that humble leaders were reported as positively impacting their work team's effectiveness. Owens & Hekman (2012) also reported leaders were described as more inclusive, due to increased perception of openness to follower ideas, especially ideas contrary to leader's. Positive follower behaviors were related to humble-leader behaviors, including work engagement, job satisfaction, employee retention, and increased psychological liberty (Owens et al., 2013, Ou et al., 2016, Neilson & Marrone, 2018).

Humility and Leadership

Scholars have studied leadership confidence and narcissism to discern the importance of humility in leader's effectiveness in organizations (Hough, 2011; Sowcik et al., 2017; Neilson & Marrone, 2018). Oyer (2015) investigated the relationship between confidence and humility. Results were critical in refuting the notion of low self-concept as a variable in humility. Rather, confidence and humility were positively related and appeared to work together in teachers' reports of leader-effectiveness. Sowcik et al. (2017) described narcissism as inversely related to both leader humility and effectiveness.

The effect of humility in leader-follower relationships has been studied in recent years (Gonclaves et al., 2017, Hough, 2011; Ou et al., 2018; Oyer, 2015; Chiu, Owens et al., 2013; Owens et al., 2016; Wang et al., 2018). Researchers suggested investigating humble-leader behaviors may foster environments with more collaboration in decision-making that appear increasingly necessary for today's complex and rapidly changing workplaces (Neilson & Marrone, 2018; Ou et al., 2014). While Hough (2011) only found a small significant relationship between Superintendent humility and student achievement in math in the educational realm, there have been numerous studies to demonstrate positive relationships between leader humility and positive outcomes for organizations. Gonclaves et al. (2017) and Sowick et al. (2017) both reported leader receptivity to new ideas as highly related to organizational creativity. In fact, the results of the Gonclaves' et al. (2017) investigation demonstrated the positive relationship between humility in leadership and organizational creativity in subordinate teams. The authors posited an emerging theory related to leadership humility and psychological safety in teams, which in turn, increases creativity, hope, resilience, confidence, and optimism based on results of their empirical study. Similarly, Chiu et al. (2016) found that follower engagement increased for

task completion, positing that humility is a condition of team effectiveness. Ou et al. (2018) noted higher levels in humility in CEO's were related to more dynamic top management teams, smaller salary disparities and increased profit for business organizations.

Owens and Hekman (2012) reported that leader humility was related to growth in followers, as 'humble leaders were reported making outwardly explicit the step-by-step process of personal development" (p. 802). Validation and greater psychological freedom were described as conditions that were created because of leader humility. In a qualitative investigation with 55 interviews of leaders across sectors, Owens and Heckman (2012) also observed followers demonstrated greater openness, collaboration, ability to tolerate ambiguity and take greater risks in the workplace.

Leadership humility in leader-follower relationships has been noted as a supportive or protective factor in business organizations (Owens et al., 2013; Owens et al., 2016; Wang et al., 2018). Utilizing the Expressed Humility Scale items of "admitting self-limitations, showing appreciation of followers' contributions, and seeking advice from followers" (p. 1021) and ambition of organization, Owens et al. (2013) found significant, positive relationship between leader humility and both increased job satisfaction and engagement of employees, with a negative relationship between leader humility and employee turnover. Owens et al. (2016) hypothesized that leader humility creates a team atmosphere of growth orientation and resultant continual improvement. Results indicated humility positively predicted team performance, as measured by team, ending stock value in the business assignment. Wang et al. (2018) also noted higher ratings in leader humility related to increased reports of coping and both decreased stress and exhaustion in subordinate self- report. The authors suggested core skills of relationship awareness and supportiveness create more emotionally protective climates for organizations.

Rego et al. (2019) hypothesized that leaders who show humble behaviors reflect and reinforce "powerful social cues that shape the perceptions of the teams they lead, which facilitate the development of the strengths, such as model adaptive responses to mistakes and weaknesses, experiment with new ways of accomplishing the work, create a sense of validation of strengths, and adopt a positive, growth-based, developmental paradigm about organizational life" (p.1011).

Oc, Daniels, Diefendorff, Bashshur, & Greguras, (2019) studied the relationship between leader humility and follower vulnerability as a relationship mediator. Perception of authentic, leader humility was another variable within the four investigations. The study was centered on 258 leader-follower dyads in business across India. The authors reported leader humility increased follower-perceived authenticity and decreased follower vulnerability. Humble-leader behaviors were reported to create environments of safety or vulnerability for teams and individuals (Oc et al., 2019).

Humility and Education

Humility has been directly examined in education by Hough (2011), which explored the relationship between Superintendent's leadership skills of empowerment and humility and school district's math and reading skills. Hough (2011) examined humility in leadership behaviors including supportiveness, openness, shared power, and ambition for the whole, strong commitment to change, self-awareness, and emotional management. However, there were no relationships between most factors on the empowerment measures or student achievement, with the exception of a math score. Hough expressed concern regarding the self-report aspect of the investigation. There has been no direct research regarding other-reported leader humility in a school setting (Caldwell et al., 2017; Gonçalves et al., 2017; Hough, 2011; Ritter, 2018; Sowcik, et al., 2017).

Humility within Leadership Models

Leadership models across education and other sectors have included humility through both overt and indirect descriptions. Neilson and Marrone (2018) observed parallels between leadership models described as authentic, transformational, and servant. Murphy et al. (2018) compiled a leadership framework focused on increasing "self-efficacy and organizational performance" through positive leader behaviors and relationships that empower employees (p. 10). Murphy et al. (2018) described a framework based in positive, relational, moral and spiritual dimensions. Similarly, Paulson and Hering (2018) suggested a "faith-informed relational leadership model" (n.p.). Bolsinger (2015) described the leadership skills needed as adaptive capacity, technical competence, and relational congruence. Similarly, Hess and Ludwig (2017) suggested the need for leadership elements of empathy, open mindedness, and seeking feedback and other's perspectives through reflective listening. Neilson and Marrone (2018) argued that organizational scholars examining leadership must spend time understanding "the drivers of team effectiveness in contemporary workplaces that increasingly lack hierarchical command structures, direct controls and clearly delineated roles" (p. 3).

Lencioni (2016) also presented a framework of intersected skills critical for success in the workplace. While not specific to leadership, Lencioni described the ideal employee or teammate, as "humble, hungry and smart" (p. 155). The smart refers to emotional intelligence skills, such as empathy, and the term hungry refers to a combination of drive and grit. Humility is manifested in both the treatment and value of others' contributions, as well as in putting the organization first. Lencioni ended his book with a final chapter with a description, which stated that of the three attributes, "humility stands alone" (p. 215). There has been no research to

investigate Lencioni's or the other recently presented frameworks regarding leadership in education.

Authentic and servant leadership researchers described elements of humility as part of their perspective on leadership (Avolio & Gardner, 2005; Clapp-Smith et al, 2009; Zamahani et al., 2011). While authentic leadership is focused on being "true to oneself," (Walumbwa et al, 2008; Gardner et al, 2009), Luthans et al. (2007) described self-awareness as the cornerstone component or skill of authenticity. Self-awareness was reported as a component of humility construct across 100% of all humility research since 2000 (Neilson & Marrone, 2018). In studying servant leadership, Güngör (2016) explicitly described the model as "expressing humility, authenticity, interpersonal acceptance, and stewardship; and by providing direction" (p. 1181). Similarly, Peterson, DeSimone Jr., Desmond, Zahn, & Morote (2017) described five traits of servant leadership, including altruistic calling, emotional healing, persuasive mapping, organizational stewardship and team learning. Servant leadership was defined as leading "by helping others first and by placing oneself last" (Peterson et al., 2017, p. 44). Neilson and Marrone (2018) argued that humility may be the overlooked and omitted element in better understanding leadership impact on organizational performance.

Humility and Psychological Capital

Rego et al. (2019) conducted the first series of studies of the relationship between psychological capital and humility. The authors reported the desire to advance the current research on leader humility, given the lack of understanding regarding the mechanisms and outcomes for impact on followers. Furthermore, the authors argued the emergent literature on both leader humility and psychological capital together point to leader humility as an antecedent to enhancing positivity and performance in organizations, hypothesizing that humble-leader

behaviors may be critical to the development of psychological capital through social cues and shaping. Rego et al. (2019) proposed "that as leaders admit mistakes, shine the spotlight on others' strengths, and seek to be taught by others, they give away power, producing a complementary 'empowered' followership who feel an added level of psychological capital" (p. 1013).

The global research team studied humility across three separate, but related investigations in Portugal and China (Rego et al., 2019). Building upon the growing body of research regarding the importance of humility for leaders in organization, the relationship of leader humility behaviors and the collective humility impact on employees across health care and business management was strong in both the correlational and empirical investigations. The series of investigations were conducted in both Asian and Western cultures to study the impact of culture on humility (Rego et al., 2019).

In the first investigation, researchers manipulated leader humility as an independent variable in repeated simulations across two countries, with high humility treatment groups exposed to information about the leader as admitting mistakes, appreciating follower's contributions, complimenting attributes, and being open to ideas (Rego et al., 2019). Comparatively, the control group learned about a transactional-style leader who reinforces positive work and works hard to prevent poor performance. Leader humility significantly impacted follower-reports of psychological capital (Rego, et al., 2019).

In the second investigation, the researchers recruited leader-follower teams from 41 different workplace sectors to report on the relationship of psychological capital, team performance, and leader humility (Rego, et al., 2019). Seventy teams of 282 participants served as volunteers for the study from health care, technical, insurance, telemarketing, and other fields.

Team members reported on both self-report psychological capital and team performance, and other-report, leader humility. Regression analysis revealed a strong and significant relationship between leader humility and psychological capital. When "modelled leader humility as the predictor and team psychological capital as the dependent variable, the effect was positive and significant" (Rego, et al., 2019, p 1023).

In the third investigation, Rego et al. (2019) studied 53 teams with 203 followers in China across business settings. When utilizing leader humility as the predictor and team psychological capital as dependent variable, regressions analysis revealed a positive and significant effect (Rego et al., 2019, p.1025). Team performance was positively related to leader humility. The authors argued that leader humility might impact followers through indirect means, such as engaging in behaviors that develop the conditions in which teams can thrive. Rego et al., (2019) reported their research as empirically demonstrating the evidence to tie the importance of leader humility to team performance, with psychological capital as the indirect condition across divergent cultures and geography. The investigators suggested future research was needed across other sectors (Rego, et al., 2019).

School Principal Leadership

Scholars have found that the principal is one of the primary forces for the failure or accomplishment of schools (Leithwood & Seashore-Louis, 2011; Liu & Bellilas 2018). Educational improvement scholars have reported that leadership is the second only to teachers as a critical variable to influence the success of schools (Leithwood, Louis, Anderson, & Wahlstrom, 2004). Principal leadership is a critical variable in generating the conditions that facilitate strong student achievement and positive interpersonal relationships that cascade throughout a building (Goodwin, Cameron & Hein, 2015; Liu & Bellilas 2018; Robinson, Lloyd,

& Rowe, 2008). Leithwood et al. (2004) reported that 25% of the school impact on achievement is related to the building principal. Leithwood et al. (2004) argued that principals accomplish this through clear direction in both process and results expectations, as well as focusing on the growth of staff and creating conditions to support student learning. Goodwin, et al. (2015) suggested that as principals employ leadership practices that support student learning and teachers, there is an impact on teacher perception and overall climate.

Gender and Leadership. In examining leader behaviors impact on the organization, gender is one variable to be examined. Gender has been a variable previously investigated within the literature regarding organizational leadership (Burns & Martin, 2010; Burton & Weiner, 2016; Diehl & Dzubinski, 2016; Evers-Gerdes, 2019; Gougeon, 1991; Selzer, Howton, & Wallace, 2017; Schachter, 2017). Schachter (2017) reviewed the literature including three meta-analyses, finding early scholars described gender differences in leadership, with women reported as more nurturing and relational, and men as more focused on structural rules, hierarchy, and fair treatment. In studying gender differences, Schachter (2017) observed women in leadership displaying higher distributive styles and including values in decision-making. Evers-Gerdes (2019) investigated transformational leadership, finding only one difference for gender from teacher perceptions, as male principals were reported with greater focus on teachers' personal aspects compared to female principals. Sodoma & Else (2009) noted differences for gender in job satisfaction across variables of pay, evaluations from superintendents, and acknowledgement from school boards. Empirical research has noted some differences across gender in leadership style, but not nearly to what Schachter (2017) reported is described, as only subtle differences have been noted.

Much of the research has documented gender disparities in opportunities and barriers, while generating ideas for increasing leadership opportunities for women (Burton & Weiner, 2016; Diehl & Dzubinski, 2016; Selzer, et al., 2017). Burton & Weiner (2016) investigated these gender differences through comparing the experiences of male and female candidates in a principal leadership program, finding feedback was gender-oriented. The authors described, "gender-messaging" contributed to participant conceptualization of leadership and their potential fit within a leadership frame (Burton & Weiner, 2016, p. 10). Diehl & Dzubinski (2016) investigated barriers for women in leadership across levels in organizations, suggesting intentional strategies for removing barriers and creating opportunities.

Specific to education, Shaked, Gland, and Gross (2017) explored gender differences in school principals and instructional leadership. In a qualitative investigation of 59 principals, the authors found only two differences. Female principals described relying on content knowledge for authority versus male principals, who relied on more positional authority in decision-making. Female principals reported the importance of preserving relationships in decision making. Female principals also reported a higher degree of integrating relationships in decision-making. Early on, both Gungeon (1991) and Eagly, Karau & Johnson (1992) also noted gender differences in principal leadership. In a meta-analysis of 50 studies focused on gender differences in principal leadership, Eagly et al., (1992) found female school leaders tended to engage on more distributive leadership practices, including others versus more authoritative styles of leadership. Gungeon (1991) noted that female teachers described communication with female principals more positively compared with male principals, reporting feeling greater discouragement and separation with male counterparts. In contrast, Burns & Martin (2010) noted no differences in gender for effectiveness, as reported by teachers. Rather, leader qualities,

such as trust and invitation were differentiators between leaders when reporting on effective schools and leadership (Burns & Martin, 2010).

School Location and Leadership. Geographical location of schools across rural, suburban and urban contexts has also been a variable examined with principal leadership (Eckert, 2019; Evers-Gerdes, 2019; Pendola & Fuller, 2018). Eckert (2019) studied collective leadership in a multi-case study design across three schools, noting the importance of context in the implementation and success of relationships between principals and teachers. Eckert (2019) found the "rural and suburban schools demonstrated higher levels of collective leadership development than the urban school, particularly related to work design, developmental experiences, increased capacity, and outcomes" (p. 487). Eckert (2019) reported both interpersonal relationships and proximity as factors contributing to higher levels of collective leadership. In contrast, Evers-Gerdes (2019) found no differences in teacher reports of principal transformational leadership across school location. Goldring, Huff, May, & Camburn (2007) indicated context was a critical factor for leadership practices. When analyzing principal time logs, the researchers observed that leaders in high-challenge context schools spent more time on student issues in comparison to higher advantaged school leaders, who spent greater time on instructional leadership.

Researchers have examined principal stability and geographical location (Pendola & Fuller, 2018; Snodgrass-Rangel, 2018). Pendola & Fuller (2018) conducted a longitudinal investigation of rural school principal stability, finding less stability and diversity when compared to non-rural school leaders. The authors reported shorter tenure for rural principals, particularly for male principals, with females more likely to be remain in rural positions. Pendola & Fuller (2018) also described the multiple roles that rural principals must play in

schools as a factor in poor retention. Without support specialists or associate principals or other networking opportunities, rural school leaders were described as isolated and often noted to be the curriculum and behavior specialist, even teaching courses in some schools. Similarly, Snodgrass-Rangel (2018) conducted a review of literature regarding principal turnover, noting urban principals less likely to leave positions compared to both rural and suburban peers across the majority of the studies.

Community resources and stressors have been reported as factors influencing educational achievement and school leadership across geographical location (Miller, Votruba-Drzal, Coley, 2019). Miller et al. (2019) reported rural and urban communities with fewer resources comparatively to suburban schools. Urban schools were described to have higher stressors in neighborhood issues compared to other locations. Pendola & Fuller (2018) also reported rural principals were expected to be community leaders, an additional stressor regarding visibility and engagement with small communities.

Job satisfaction and well-being for principals were also studied across location (Robey & Helfenbein, 2018). Robey & Helfenbein (2018) studied urban principals across public charter and private schools for jobs satisfaction and stress. While no differences were noted for job satisfaction, public school principals reported greater stress than private Catholic school leaders. In a 2018 investigation of factors related to job satisfaction for international school leaders, Liu & Bellilas (2018) utilized the Teaching and Learning International Survey (TALIS) data to find significant differences across country and region. The authors attributed variance to factors such as positive relationships, safety, resources and autonomy.

Years of Service in Leadership. Sodoma & Else (2009) investigated principals' years of service as a factor in job satisfaction, observing that principals with less than five years of

service reported greater challenges. The authors posited that many of the variables contributing to job satisfaction, such as relationships, take time to cultivate and grow for school leaders. The authors found that principals with more than 20 years of service indicated greater job satisfaction and feelings of achievement, with less tenured principals describing more problems in the workplace. In their investigation on job satisfaction, Liu & Bellilas (2018) reported an interactive nature of both job satisfaction intertwined with commitment with an organization, or an attachment to the people and/or culture within a school. These networks of relationships deepened over years of service and were at the decision to stay in leadership positions.

The challenges facing education are complex and rapidly changing. Exploring the leader behaviors that produce successful workplace environments has the potential to influence both teacher and student performance. Psychological capital has been demonstrated to be an important variable in positive organizational climate outcomes, related to positive employee behaviors, employee attitudes, performance, and well-being (Avey et al., 2011; Dawkins, Martin, Scott, & Sanderson, 2015; Luthans &Youssef-Morgan, 2017; Avolio & Gardner, 2005). Rego et al. (2019) was the first to explore the relationship between psychological capital and humility across multiple sectors, finding a positive relationship between constructs. This investigation is a first step in studying the relationship between humble, principal behaviors and teacher psychological capital in an educational setting.

Chapter III: Methodology

Purpose of the Study

The purpose of this quantitative, cross-sectional study was to explore the relationship between principal, leader's humility and psychological capital of teachers in a 6-12 educational setting. This chapter provides an overview of the methods used in the study along with a description of participant selection, instrumentation, ethical considerations and limitations.

Philosophy and Justification

The focus of this study was the investigation of the potential relationship between leader humility and psychological capital of teachers in a 6-12 educational setting. Determining whether principal humility is related to teacher's psychological capital provides insights into what dynamics exist to improve school settings for teachers and ultimately, students. Researchers have demonstrated the myriad of positive outcomes of psychological capital across multiple sectors (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2007; Luthans et al., 2013; Luthans et al., 2015; Mello, 2013). These include well-being, health, relationships, workplace-safety, behaviors, attitudes, and even job performance. Psychological capital has been studied recently in educational settings in comparatively limited investigations, also finding an important relationship with teacher well-being and job satisfaction (Feng, 2016; Kurt & Demirbolat, 2019; Ritter, 2018; Tosten & Toprak, 2017; Viseu et al., 2016; Yalçin & Isgör, 2017). At a time of significant teacher attrition in K-12 systems, which negatively affects student achievement, implications for improving teacher well-being, performance, and overall workplace are critical variables to investigate (Castro, Quinn, Fuller, & Barnes, 2018).

Research has also demonstrated the malleable nature of psychological capital (Luthans, et al., 2015; Stratman & Youssef-Morgan, 2019). Given the effect of increasing psychological

capital for workplace attitude and safety (Stratman & Youssef-Morgan, 2019), the possibility exists to increase this psychological variable in not only teachers and administrators, but also students. Learning what behaviors may produce increases in thinking patterns associated with hope, optimism, resilience and self-efficacy may produce positive effects that have yet to be investigated in educational settings.

Emerging literature on humility is revealing that leadership behaviors such as openness, accurate self- awareness, appreciation of others, and transcendence may be key to developing positive dynamics within teams (Gonçalves & Brandão, 2017; Li, & Shi, 2018; Nielsen & Marrone, 2018; Rego et al., 2019; Wang, Owens, Li, & Shi, 2018). There is extensive research within the business setting regarding the effects of humility in leader-follower relationships and in the positive dynamics created for problem solving and adaptive capacity (Goncalves et al., 2017; Rego et al., 2019; Sowick et al., 2017; Wang et al., 2018). Leader humility was a strong mediating variable to psychological capital across health care, sales, engineering, and finance sectors in a very recent series of investigations (Rego et al, 2019). Despite the developing body of research in the business setting for the positive effect of leader humility, there is a lack of research on leader humility in education (Caldwell et al., 2017; Gonçalves et al., 2017; Hough, 2011; Ritter, 2018; Sowcik et al., 2017).

Scholars have been describing the need to examine what skills are critical for leadership across all sectors in the rapidly changing workplace to assist workers with thriving in ambiguity and adaptive environments (Andenoro, Sowcik, & Balser, 2017; Hess & Ludwig, 2017; Murphy & Seashore-Louis, 2018; Sowcik et al., 2017). Implications are multi-fold for discovering leader behaviors related to creating organizations and systems that are open to solving multi-faceted issues, and finding solutions. There is a critical call from scholars for leaders across sectors to

increase the psychological and adaptive capital within the workplace (Bolsinger, 2015; Hess & Ludwig, 2017; Rego et al.; 2019; Murphy & Seashore-Louis, 2018).

Theoretical Framework

Theory is used to help frame research, discern research questions and goals, as well as generate and test hypotheses (Creswell, 2014). Theory also functions to inform methods, design, and research questions (Maxwell, 2013; Merriam & Tisdell, 2016; Patten, 2014; Pyrczak, 2014). The present study employed the theoretical framework of psychological capital (Avey, Reichard, Luthans, & Mhatre. 2011; Dawkins, et al., 2015; Luthans, 2002; Luthans, Avolio, Avey, & Norman, 2007; Luthans, Youssef-Morgan, & Avolio, 2015; Ritter, 2018). Luthans et al. (2007) first conceptualized that the elements of hope, efficacy, resilience and optimism work together in a unique and positive manner to influence organizations. Psychological capital (PsyCap) has been studied as a construct with replicated research demonstrating the positive outcomes and relationships in organizations, such as employee attitudes, behaviors, well-being and health (Avey, 2011). Figure 3 illustrates the current investigation of examining the antecedent relationship between humble-leader behaviors of school principals and the psychological capital (hope, optimism, self-efficacy and resilience) of teachers.

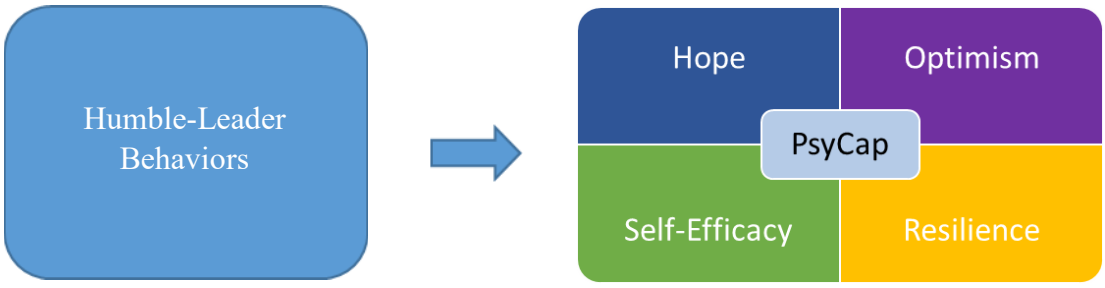

Figure 3: Theoretical Framework and Research Design

Research Design

For the present investigation, there already exists a robust theoretical framework researched across sectors, with very few studies in education (Luthans & Youssef-Morgan, 2017; Ritter, 2018). The previous investigations have primarily focused on the outcomes related to psychological capital, rather than the antecedents. Rego et al. (2019) examined the antecedent of leader humility in other sectors, but did not include education, the area of study in the current investigation. Adequate instrumentation already exists for studying the relationship between the constructs on psychological capital and leader humility. Both the Expressed Humility Scale (Owens et al., 2013) and the Psychological Capital Questionnaire- 12 (Avey at el., 2011) have been validated and utilized in multiple research studies with reported adequate psychometric properties (Dawkins, Martin, Scott, & Sanderson, 2015; Kamei, & Ferreira, Valentini, Peres, Kamei, & Damasio, 2018; Lorenz, Beer, Pütz, & Heinitz, 2016; Santana-Cárdenas, S., Nuno-Viseu, J., López-Núñez, M. I., & Neves Jesus, S., 2018). The research design was a quantitative, cross-sectional, survey design study to examine the relationship between principal leader's humility and psychological capital in 6-12 educational settings.

Research Questions and Hypotheses

The following research questions guided the current investigation:

RQ1. What relationship, if any, exists between follower-reported leader humility and follower-reported psychological capital in an educational setting?

$H1_0$: There is no relationship between follower-reported leader humility and psychological capital reported by teachers.

$H1_a$: There is a positive relationship between follower-reported leader humility and psychological capital reported by teachers.

RQ2. What differences exist, if any, across demographic variables of leader humility and follower psychological capital for gender, employment duration, and region (urban, suburban, and rural)?

$H2_0$: There are no differences across the demographic variable of leader gender and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H2_a$: There are significant differences across the demographic variable of leader gender and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H3_0$: There are no differences across demographic variable of leader employment duration and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H3_a$: There are significant differences across the demographic variable of leader employment duration and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H4_0$: There are no differences across demographic variable of leader regional location and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H4_a$: There are significant differences across the demographic variable of leader regional location and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H5_0$: Leader humility, gender, employment duration and location do not predict teacher-reported psychological capital.

$H5_a$: Leader humility, gender, employment duration and location in combination with one another predict teacher-reported psychological capital.

Sampling Design

The population is considered the total group of interest in an investigation (Creswell, 2014, Muijs, 2011; Orcher, 2014; Patten, 2014; Pyrczak, 2014; Roberts, 2010). Secondary school, lead principals working in Minnesota public schools served as the communication conduit to the convenience sample of Minnesota teachers. The population for the current investigation was Minnesota secondary school teachers. Sampling is the method of choosing participants to represent the larger population, with a convenience sample one that is more easily available to the investigator (Orcher, 2014; Muijs, 2011; Patten, 2014, Pyrczak, 2014). Currently, there are 25,411 teachers working in 966 secondary schools (Minnesota Department of Education, 2019). The Minnesota Association of Secondary School Principals (MASSP) lists 597 lead principals in Minnesota middle, junior high, and high schools included in their membership database, with these 597 principals serving as the communication conduit to secondary teachers. The sample for this study was a convenience sample of the teachers in grades 6-12 working at 597 of the 966 public traditional and charter schools in the state of Minnesota (Muijs, 2011; Patten, 2014). Of the 966 schools, MASSP distributed a communication email (Appendix A) to 12/164 public charters, 0/35 distance learning schools, 3/4 Intermediate Schools and 12/262 Alternative Learning Centers, in addition to 564 traditional secondary school principals for a total of reaching 62% of the possible 25,411 teachers or 15,755

teachers. Survey responses from Minnesota secondary teachers were the sample for the present study.

After full approval from the Bethel University's Institutional Review Board (IRB), the electronic survey was disseminated by MASSP for the investigator to the e-mail addresses of the 597 Minnesota lead, secondary principals. The email to principals included an introduction, description of the present investigation, and a link to the teacher informed consent letter (Appendix A). This e-mail also included instructions to forward the email to teachers within their respective school buildings, if the leader consented to study participation. Once teachers received the email from their principals, an informed consent letter to teachers was included within an embedded link (Appendix B). The letter to teachers also included a description of the study, an invitation to participate, and as well as an embedded link to the Qualtrics survey (Appendix C).

Response rates in social sciences typically range between 20% and 25% (Soria, personal communication, 2019). The sampling frame of secondary teachers was 3,150, assuming 20% of principals forwarded the survey. The target response rate for this investigation was 20% of the 3150 teachers in the sampling frame, or 630 Minnesota secondary teachers. Given a 95% confidence level and a confidence interval of 5, a sample size of 239 was needed in order to utilize parametric statistics (Creative Research Systems, 2012; Creswell, 2014). Snowball sampling was utilized within the investigation design as a secondary sampling method. Orcher (2014) suggested snowball sampling when participants may be difficult to acquire, as established networks or relationships assist in locating volunteers for participation.

Variables

Independent variables included leader humility, number of years of leadership or principal longevity, gender of teacher, gender of leader, and geographical region in Minnesota. Summation of psychological capital was the dependent variable as measured by the 12-item psychological capital questionnaire (Avey et al., 2011).

Instrumentation and Measures

The scales that were used in this investigation were the nine-item, Expressed Humility Scale (Owens et al., 2013) and the twelve-item, Psychological Capital Questionnaire-12 (or PCQ-12) (Avey et al., 2011). Both instruments were combined into a single survey instrument through Qualtrics to include questions written by the investigator regarding the leader's gender, years of service, the teacher's gender and the school's geographic region (Appendix C). The examiner generated four questions as multiple choice to identify teacher gender, principal gender, principal years of service and the location of the school. Examination of recent dissertation surveys of similar questions was part of the question development process (Evers-Gerdes, 2019; Symes, 2019)

Interest in humility measures has grown over the last decade, with several surveys published as part of dissertations (Owens, 2009; Elliot, 2010) and others in both organizational, counseling and theological sectors (McElroy, 2017). Early measures of humility utilized a self-report design, which were noted by scholars as problematic due to those with higher humility underestimating in self-report measures, and those with lower humility or narcissistic traits overestimating humble behaviors when compared to other-report designs (Owens et al., 2013; Nielson & Marrone, 2018). Consequently, researchers have argued that measurement of

humility through observer or other-report is preferred as the most valid method of investigation (Davis et al., 2010; Exline et al. 2004; Nielsen & Marrone, 2018; Owens et al., 2013).

Owens developed the Expressed Humility Scale from an original grounded theory investigation and construct development from interviews of leaders (Owens, 2009). Owens, Johnson, & Mitchell, (2013) then followed their original research with an investigation of a nine-item instrument, using a 5-point Likert rating scale ranging from 1 (strongly disagree) to 5 (strongly agree). The other-report instrument is constructed with three subscales: Willingness to View Oneself Accurately, Appreciation of Others' Strengths, and Teachability. Items include statements, such as. "This leader shows appreciation for the unique contributions of others" and "This leader shows he or she is open to the advice of others" (Owens et al., 2013).

Owens et al. (2013) reported studying critical psychometric properties in the development of the instrument. Creswell (2014) discussed the importance of construct validity, as researchers need to measure the variables wrong, utilize inappropriate variables, or employ inadequate definitions (Creswell, 2005). The authors reported reliability as .95 (Owens et al., 2013, Owens et al., 2016). Additional scholars have noted similar levels of consistency, with Cronbach's alpha (a measure of internal consistency) totals from .92 to .97 across samples (Zhang, Waldman, Han, & Li, 2015). Construct validity was established with the finding of a negative relationship with narcissism ($r = -.63$), a positive relationship with another previously established Humility scales ($r = .55$), openness ($r = .31$), emotional stability ($r = .49$), and learning goal orientation ($r = .63$) (McElroy, 2017; Owens et al., 2013).

The second instrument utilized in the present investigation was the PsyCap Questionnaire (Luthans et al., 2007). The authors have described positive psychological capital as a "second-order factor comprised of hope, optimism, self-efficacy, and resilience" (Luthans et al., 2007, p.

543). The instrument was constructed with both 24 and 12 items across a 6-point Likert response scale where 1 = equals strongly disagree, and 6 equals strongly agree (Avey, Luthans, & Youssef, 2010; Dawkins et al., 2015). Avey, Luthans, Smith and Palmer, (2010) described the item construction process, with items included that were similar to previously validated surveys of each separate construct. PCQ-24 and PQC-12 included similar items with previously established construct validity for hope (Snyder et al., 1996), optimism (Scheier & Carver, 1985), resilience (Wagnild & Young, 1993), and efficacy (Parker, 1998). Sample items include: "Right now I see myself as being pretty successful at work", "I can think of many ways to reach my current work goals," and "I can get through difficult times at work because I've experienced difficulty before" (Avey et al., 2011).

The Questionnaire-12 was designed to include the four components of Psychological Capital, with three questions for each of the four constructs. Researchers reported the shorter version was created later due to issues with length and concerns over translation of sentences with negation, as each statement was asked in both positive and negative language in the 24-item version (Avey at el., 2011). The PsyCap-12 Questionnaire includes 12 statements for self-report of an individual's own perception of psychological capital. The PCQ-12 contains four items measuring hope, three items representing efficacy, two items reflecting optimism, and three items measuring resilience (Figure 4) (Kamei, Ferreira, Valentini, Peres, Kamei & Damásio, 2018). There are currently multiple versions of the questionnaire across languages (Dawkins et al., 2015; Kamei et al., 2018). Scholars have demonstrated the PsyCap-Questionnaire is reliable, with strong internal consistency of each subscale (Resilience = .83, Efficacy = .92, Hope = .87, Optimism = .78) and the overall reliability coefficient of .93 to .95 across sectors (Adil & Kamal, 2016; Avey, 2011; Caza, et al., 2010; Luthans et al., 2007; Sweetman, Luthans, Avey, &

Luthans, 2010). For the current investigation, the two described instruments were combined into one survey through Qulatrics (Qualtrics, Provo, UT) platform, including four additional questions regarding gender of teacher, gender of principal, principal years of service and regional, school location in Minnesota (Appendix C). Permission was obtained to utilize both surveys in the investigation (Appendix D & E).

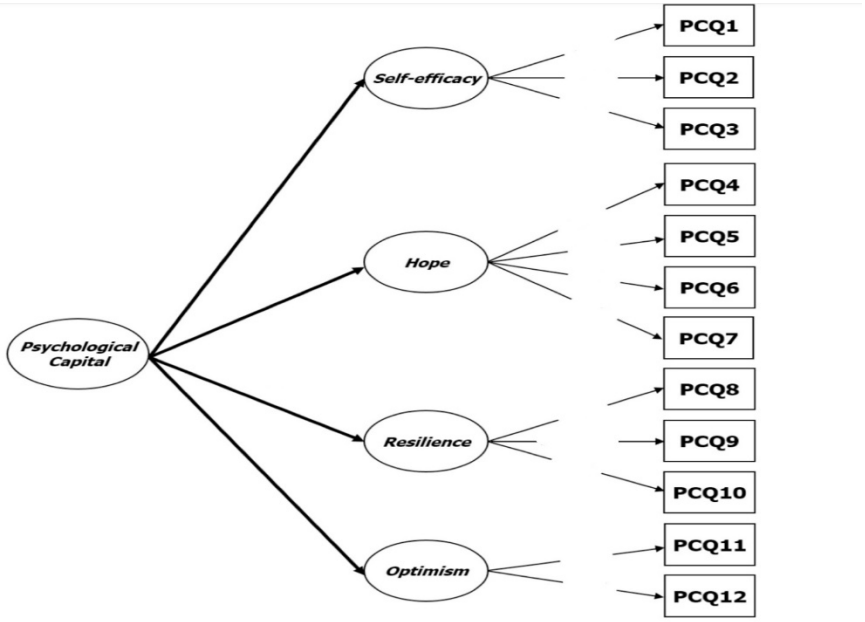

Figure 4: Psychological Capital Questionnaire – 12 items (Kamei et al., 2018)

Setting

The state of Minnesota was the broad setting for the survey. The setting of a Midwest public school may significantly differ from other areas of the United States, private schools and/or other countries with more diverse language and culture. Minnesota was chosen for convenience to the university setting, as well as the cooperation of the Minnesota Association of Secondary School Principal group. In 2018-19, of the 57,262 public school teachers in Minnesota, nearly half served in secondary buildings, with 25,411 teachers working in grades 6-12 in middle, junior high and high schools (Minnesota Department of Education, 2019). Further demographic data for Minnesota teachers was collected from the Minnesota Professional

Educator Licensing and Standards Board (PELSB) for regional demographics. The Minnesota State Demographic Center (2017) published a description of Minnesota population, for designating what is considered urban, rural and suburban within the state based on Census Bureau definition. Figure 5 is an illustration of Minnesota population by county with the designation of rural and urban (Minnesota State Demographic Center, 2017).

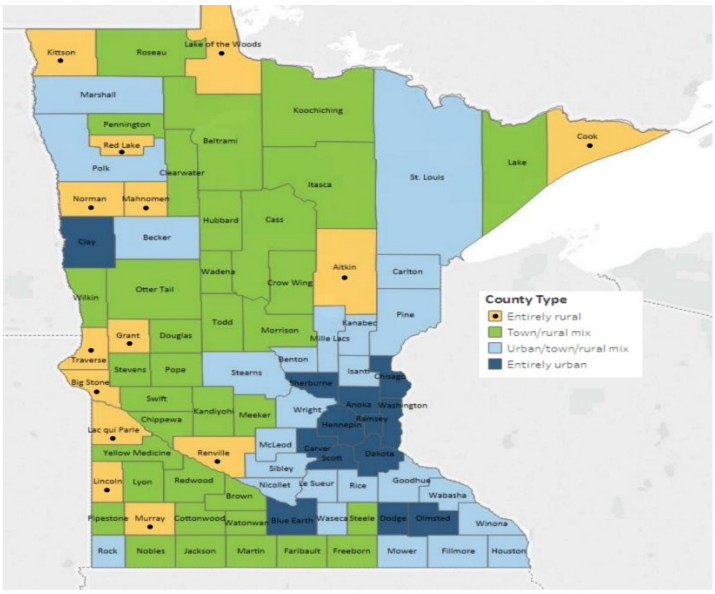

Figure 5: Population of Minnesota by County (Minnesota State Demographic Center, 2017)

Field Test

In quantitative research, field tests are conducted to ensure proper instrumentation performance prior to engaging in the investigation and sending the study to participants (Creswell, 2014). A field test was conducted with the survey to confirm the survey worked as intended, to uncover any issues with the clarity of directions, problems with wording of items, and to ensure data was collected in the software as intended. The survey was sent to five advisors, who are not members of the investigation population. The dissertation advisor, two readers, and research course peer partner and instructor served as the field testers. The Qualtrics survey link was sent to the five reviewers. Two field testers measured the time needed to take

the survey so this information can be later communicated to potential participants. Feedback from reviewers was utilized for adjustments in wording and format for both the survey and communications.

Data Collection Procedures

Research was conducted during January, 2020 via the use of an online Qualtrics survey (Qualtrics, Provo, UT). The sample was both confidential and anonymous for privacy. Surveys were completed at work or on teachers' private computers. After obtaining approval from Bethel University's Institutional Review Board (IRB), the survey was sent to the Director of the Minnesota Association of Secondary Schools Principals (MASSP) for final review and approval to send to members. Upon approval, an invitation email (Appendix A) was emailed to 597 Minnesota lead, public-secondary principals by MASSP on behalf on the researcher. The email included a description of the study, an invitation to participate and an informed consent letter (Appendix B), as well as an embedded link to the Qualtrics survey (Appendix C). The introduction email also described the process of participant selection, a brief discussion of the purpose of the research, assurance of anonymity, as well as a description of all study respondents' rights. The email requested building administrators to forward the informed consent letter and survey to all teachers in their buildings.

The survey was accessed by teachers through the online Qualtrics program via an embedded hyperlink (Appendix C). Qualtrics allowed for anonymity of respondents with no personal identifiers of teachers, principals, or schools either collected or recorded. Qualtrics also provided several other beneficial features including tamper-free electronic storage, data transfer and accuracy, as well as cost-effectiveness and distribution (Creative Research Systems, 2016).

Given two weeks and a smaller number of survey responses, a modified, snowball sampling technique was employed with the Bethel University Advisors sending encouraging emails (Appendix F) to several known Minnesota secondary principals. During the third week, a reminder email with a survey link was distributed to all 597 principals again from MASSP, inviting their buildings to again participate in the investigation and forward the email and survey to teachers within their building (Appendix G). Survey participants and principal respondents were not asked to provide any identifying information, such as name, school, or position that would permit the investigator to identify the participant, principal or school district. The survey was open for a total of three weeks.

Data Analysis

The research questions were investigated with both descriptive and inferential statistics. Data was transferred into the Statistical Package for the Social Sciences -26 software (SPSS) (IBM, 2019), including all of the necessary coding and data for analysis. Number of responses was counted by region, gender and years of service, then analyzed with descriptive statistics. Data was also analyzed utilizing a series of correlations, Pearson correlation coefficient (PCC) and a multiple regression to determine relationships between psychological capital and expressed humility. Multiple regression was utilized to determine whether any of the variables predict teacher reported psychological capital, such as gender or principal's longevity. Regression analysis assists in understanding the relationships between independent and dependent variables, and whether variables such as humility predict psychological capital (Muijs, 2011). Data was checked for reliability. All hypotheses were tested at the 95% confidence level using SPSS-26 statistical software (IBM, 2019).

Limitations/Delimitations of Methodology

This present investigation must be considered with several limitations. First, the convenience sample reflects only principals and teachers in grades 6-12 at public schools in the state of Minnesota whose principal hold MASSP membership. Samples of convenience may reflect uncontrolled differences from the total population and must be assumed to be biased when selection based in convenience or volunteers (Muijs, 2011; Orcher, 2014). Consequently, the results of the study will not generalize to the broad international or even national population, or to elementary or private school settings. Generalizability to sectors beyond education will also not be possible. Leader MASSP membership is another variable that may reflect differences in both principal leader and teachers employed in their schools. In examination of the sample, fewer charter and alternative learning center principals were included when compared to more traditional public schools, which could reflect other differences that were uncontrolled in the present investigation.

A second and perhaps even more significant limitation of the study was related to voluntary participation. The investigator relied solely on respondents voluntarily participating in the study. An additional limitation in sampling was the principal-variable in forwarding the survey to teachers. Humility may be a factor in those principals who volunteered to send the email to teachers in their building. Self-report of independent variables regarding regional location was another potential limitation, due to self-report accuracy compared to actual Minnesota region.

Another limitation of cross-sectional survey design related to the impossibility of determining causality (Muijs, 2011). Given the variables were studied at one point in time for the population and not longitudinally, no variables were manipulated and no causality can be

investigated, only whether there was a relationship between variables. Delimitations for the current investigation center on population, sampling and instrument. For example, elementary principals and teachers were not included, nor were principals from other states or regions. Racial variables were also not included as part of this investigation. Other longer instruments (Psychological Capital Questionnaire – 24) were also not used to balance time needed and voluntary participation.

Both directionality and the lack of correlating data between the actual principals and teachers who work together are also limitations of the investigation. First, it must be considered that higher rates of psychological capital in teachers could produce higher perceptions of humble leader behaviors. Due to the study design, there is no ability to determine any causation or direction of the relationship, only whether the variables co-relate. Given the anonymous nature of study, there was also no tracking of data between actual principals and teachers. Rather, data was aggregated from teachers across Minnesota secondary schools to examine their perception of their own psychological capital and their perceptions of their principal humble behaviors, given concern for anonymity in follower-report of leader humility.

Ethical Considerations

The present investigation followed the critical ethical principles detailed in the Belmont Report's Ethical Principles and Guidelines for the Protection of Human Subjects of Research published by the Department of Health, Education, and Welfare (1978). Stemming from the 1978 Belmont Report (United States Department of Health, Education, and Welfare, 1978), these broad values are the foundation of ethical research practices: respect for humanity, beneficence, and justice (Bailey, 2014; Hicks, 2018). From these values stem application practices such as informed consent, confidentiality, and Institutional Review Board (IRB) approval. These

practices must be in place throughout the research process to protect participants from any harm (Bailey, 2014; Creswell, 2014; Orcher, 2014; Patten, 2014; Pyrczak, 2014).

Respect for humanity is the first essential element of ethical research. This value reflects the legal responsibility and moral obligation of the researcher to protect human subjects (Arwood & Panicker, 2017; Bailey, 2014; Creswell, 2014; Orcher, 2014; Patten, 2014). Participants must be protected from harm, not only physically, but also in privacy and confidentiality. Privacy considerations relate to participation and the gathering of information, with confidentiality related to potential release of private information collected through the research process (Bailey, 2014). In the present investigation, data collected was not associated with any identifiers, such as school district, principal or teacher's information. Data was collected and analyzed anonymously. The investigator was not aware of identifiers. Data was stored electronically to protect privacy under password-protected software.

Informed consent is a second, key ethical practice to protect subjects from harm (Bailey, 2014; Creswell, 2014; Hicks, 2014; Patton, 2014; Pyrczak, 2014). Participants must have the right to either voluntarily consent or assent to participate, depending on age, and to withdraw at any time (Hicks, 2014). Coercion or pressure to participate is considered unethical (Bailey, 2014; Creswell, 2014; Hicks, 2014; Patten, 2014). Consent may take various forms depending on method and Institutional Review Board (IRB) approval process (Martinez, 2017). Research subjects also have a right to understand the research study's purpose, potential risks, benefits, and confidentiality limits, as well as the identity, contact information of the researcher, and sponsor to ask questions (Bailey, 2014). The present study included an informed consent email (Appendix B) that detailed all the possible risks, confidentiality limits, voluntary status, and contact information for the investigator and university advisors.

According to the Belmont Report (United States Department of Health, Education and Welfare, 1978), beneficence is a principle defined by ensuring protection from harm for subjects, but also ensuring the protection of their well-being, a higher standard. Researchers must both eliminate or reduce any harm to subjects and maximize benefits for participation when conducting research projects with human subjects.

A final ethical consideration from the Belmont Report is justice (United States Department of Health, Education and Welfare, 1978). Justice is related to fair treatment. Equal or fair treatment of participants is a critical consideration with regard to both, with any benefit or encumbrance, in the selection of participants, treatments or any other aspect of participation.

The present investigation adhered to all of these ethical principles described in the Belmont Report (1978). The three principles of beneficence, justice, and respect for persons were all a focus for the research project. The survey was created in Qualtrics to maximize protection of identity for both principal and teacher participants. The survey was anonymous, with the researcher unaware of the specific school principal and teacher's identity unless a participant voluntarily contacted the researcher. All names and emails were disassociated from the data. Risks to participating in this study are minimal, while the benefits for participation included increased conversation and learning regarding the factors related to psychological capital in an educational setting in Minnesota.

Chapter IV: Results

Overview of the Study

The purpose of this study was to analyze the relationship between the self-reported psychological capital of MN public secondary-school teachers and teacher-reported, humble-leader behaviors of their principals. The study explored whether humble principal behaviors of openness, self-awareness, and appreciation of others were related to the confluence of hope, optimism, resilience and self-efficacy (psychological capital) of MN secondary school teachers. The study also explored whether school district location, principal gender, teacher gender, and/or years of service were factors in educators' perceptions of both their own psychological capital and leader humble behaviors. Data was collected as previously described in Chapter 3 through a Qualtrics survey. The survey was emailed to the 597 lead secondary principals in Minnesota, which could have had the capacity to reach 15,755 teachers, dependent on both principal decisions to forward and teacher's decisions to participate. Given the condition of anonymity, the researcher was not aware of how many principals forwarded the survey, only the number of teachers who responded. A total of 287 educators responded to the survey.

The researcher collaborated with Dr. Joel Frederickson, Bethel University Psychology Professor, for data analysis with the Statistical Package of the Social Sciences (SPSS) -26 (IBM, 2019). This chapter highlights the descriptive statistics, manipulation of data, and statistical tests related to the research questions of this study.

Findings of the Study

The two primary research questions of this study were presented in Chapter 3, with the resultant analyses as follows.

Descriptive Statistics

The survey was sent to 597 Minnesota, lead principals, with 287 total teachers responding over the three-week period. The survey response data was first cleaned to remove all preview attempts and cases missing significant amounts of data, which eliminated 24 (8%) participant surveys. This 8% only responded to the first question regarding self-report of psychological capital, but left the item on the description of principal-humility incomplete, as well as final demographic questions. This pattern was similar across all 24 cases, as participants stopped at the same point, at the start of ratings regarding leader humility. Next, descriptive statistics were calculated to determine total number of teacher respondents by independent variables of school location, age and gender for both teacher and principal.

School location. Participants were asked to identify the location of their school in Minnesota, choosing between variable descriptions of rural, suburban and urban. Of the 263 respondents included in the analysis, 159 or 60.5% of teachers self-reported the location of their school as rural, with 95 (36.1%) of teachers reporting suburban, and only nine (3.4%) reported an urban setting.

Gender. Of the 263 responses, 178 (67.7%) of teacher participants identified as female, 83 (31.2%) male and 3 (1.1%) preferring gender neutral. Regarding principal gender, 113 teachers (43%) described their principal as female, with 148 teachers (56.3%) reporting a male principal and 2 respondents (0.8%) indicating a gender-neutral response for building principal.

Years of Service. Of the 263 responses, 64 teachers (24.3%) reported principal longevity as two years or less, with an equal 64 teachers (24.3%) of staff indicating 3-5 years for principal years of service. Forty-three (16.3%) teachers reported principals working 6-10 years,

with 82 (31.2%) describing more than 10 years of service, and 10 (3.8%) reporting this variable as unknown. A summary of the teacher-participants is located in Table 2.

Table 2

Participant Demographic Data

Variable	N	%
Location of School		
Rural	159	60.5%
Suburban	95	36.1%
Urban	9	3.4%
Teacher Gender		
Female	178	67.7%
Male	83	31.2%
Prefer neutral	3	1.1%
Principal Gender		
Female	113	43%
Male	148	56.3%
Prefer Neutral	2	0.8%
Principal Longevity		
0-2 years	64	24.3%
3-5 years	64	24.3%
6-10 years	43	16.3%
More than 10 years	82	31.2%
Unknown	10	3.8%
Total Sample	263	100.0%

Descriptive statistics were also calculated for central tendency and variance across psychological capital and humility. Mean score for PsyCap total was 4.89, with a standard deviation of .559, with Humility Mean score 3.94, and a standard deviation of .899. Responses with missing values were removed for a total of 253 cases. The following is depicted in Table 3.

Table 3

Descriptive Statistics

	Mean	Std. Deviation	N
PsyCap Total	4.8887	.55903	253
Humility	3.9403	.89883	253

Statistical Analysis

In preparation for the analysis, questions were examined for negation, with none found. There exists a scoring and interpretation manual to assist in scoring, analysis, and interpretation of the Psychological Capital Questionnaire (Luthans, Avolio & Avery, 2014). Luthans et al. (2014) reported each psychological capital dimension is calculated as a separate sum, with a total summation of psychological capital across all items also calculated. Likert scale responses were then converted into total scores for the dependent variable of psychological capital total. Dependent variable PsyCap total was calculated by adding all values from the 12 items, as well as each summation of the separate item values for the three Efficacy items (Q1-3), four Hope items (Q4-7), three Resilience items (Q8-10) and two Optimism items (Q11-12). A total summation of the nine item Expressed Humility Scale was also calculated to analyze the relationship to psychological capital, similar to other investigations (Owens et al., 2013). To conduct statistical analysis, all 24 incomplete teacher survey responses were removed, with cases that had further missing data removed for regression analysis. Given the smaller number of

urban schools at nine, the investigator categorized the demographic variable with two levels instead of three, changing this to metro and rural for the purposes of statistical analysis, as there were only nine teachers who reported working in urban setting. Longevity was also combined to create two levels of five years or less, and more than five years.

Cronbach's alpha was computed to examine internal consistency of both investigation instruments. The 12-item Psychological Capital Questionnaire yielded alpha = .863, with the Expressed Humility Scale of nine items showed alpha =. 951 (Table 4 & 5). Both calculated alpha scores are similar to previous research, reflecting strong psychometric properties.

Table 4

Cronbach's Alpha Psychological Capital Questionnaire (PsyCap-12)

Reliability Statistics

Cronbach's Alpha	N of Items
.863	12

Table 5

Cronbach's Alpha Expressed Humility Scale

Reliability Statistics

Cronbach's Alpha	N of Items
.951	9

Research Question 1: What relationship, if any, exists between follower-reported leader humility and follower-reported psychological capital in an educational setting?

Analysis of Hypothesis 1: A Pearson *r* correlation coefficient was completed to measure whether a relationship existed between teacher-reported psychological capital and teacher-

reported leader humility from the investigation data. The null hypothesis is there is no relationship between follower-reported leader humility and psychological capital reported by teachers, with the alternative hypothesis that there is a positive relationship between follower-reported leader humility and psychological capital reported by teachers. The sample size was (n=253). The alpha level used to test the significance of the relationship was $p < .05$, two-tailed. For this test, the Pearson *r* coefficient was .288. There was a significant, positive relationship between teacher self-reported psychological capital and teacher reported principal humility in their correlation, $r = .288$, $p < 001$. The null hypothesis was able to be rejected. That is, the greater follower-reported leader humility, the higher follower-reported psychological capital. Table 6 displays this data.

Table 6

Pearson r Correlation Relationship Between Humility and Psychological Capital

		Humility Sum	PsyCap Sum
Humility Sum	Pearson Correlation	1	.288**
	Sig. (2-tailed)		.000
	N	253	253
PsyCap Sum	Pearson Correlation	.288**	1
	Sig. (2-tailed)	.000	
	N	253	253

Note. **Correlation is significant at the 0.01 level (2-tailed).

To examine the relationship of the four separate elements of psychological capital and leader humility, additional correlations were also completed. In addition to a positive relationship noted between total psychological capital and total expressed humility, each of the four psychological capital elements was also positively correlated to total leader humility. The relationship between follower-reported PsyCap-optimism and leader-humility showed a positive and significant relationship, $r = .339$, $p < .001$. The relationship between teacher self-reported

PsyCap-efficacy and leader-humility showed a weak, positive and significant relationship in their correlation, $r = .190$, $p = .002$. The relationship between teacher self-reported PsyCap-resilience and leader-humility showed a positive and significant relationship, $r = .220$, $p < .001$. Finally, the relationship between teacher self-reported PsyCap-hope and principal-humility showed a weak, positive and significant relationship, $r = .172$, $p = .005$. All four of the elements with the PsyCap questionnaire were related to the other elements as well, with the strongest relationships noted between PsyCap-hope and PsyCap-resilience, $r = .614$, $p = <.001$, as well as between PsyCap-hope and PsyCap-efficacy, $r = .537$, $p = < .001$, with PsyCap-optimism and PsyCap-resilience, $r = .507$, $p <.001$. Table 7 displays this correlational data.

Table 7

The Relationship of Humility Total and Psychological Capital Elements

		Humility	Optimism	Efficacy	Resilience	Hope
Humility	Pearson Correlation	1	.339**	.190**	.220**	.172**
	Sig. (2-tailed)		.000	.002	.000	.005
	N	263	263	263	263	263
Optimism	Pearson Correlation	.339**	1	.258**	.507**	.478**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	263	278	278	278	278
Efficacy	Pearson Correlation	.190**	.258**	1	.426**	.537**
	Sig. (2-tailed)	.002	.000		.000	.000
	N	263	278	278	278	278
Resilience	Pearson Correlation	.220**	.507**	.426**	1	.614**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	263	278	278	278	278
Hope	Pearson Correlation	.172**	.478**	.537**	.614**	1
	Sig. (2-tailed)	.005	.000	.000	.000	
	N	263	278	278	278	278

Note. **Correlation is significant at the 0.01 level (2-tailed).

Examination of the relationship between psychological capital total across items on the Expressed Humility Scale was also analyzed. All individual items on the Expressed Humility Scale were significant and positively related to the total PsyCap summation, with leadership openness through actively seeking feedback from followers the strongest at (r =.293, p <.001), and the smallest at (r =.188, p = .002), related to leader willingness to learn from others. Table 8 illustrates this relationship data of humble leader behaviors from items on the Expressed Humility Scale and follower-reported total psychological capital.

Table 8

The Relationship between Psychological Capital Total and the Expressed Humility Items

Humility Items		Psy Cap Total Sum
Leader Actively seeks feedback, even if critical	Pearson Correlation	.293**
	Sig. (2-tailed)	.000
	N	263
Leader admits not when he/she doesn't know how to do something	Pearson Correlation	.267**
	Sig. (2-tailed)	.000
	N	263
Leader acknowledges when others have more knowledge/skills	Pearson Correlation	.277**
	Sig. (2-tailed)	.000
	N	263
Leader takes notices other's strengths	Pearson Correlation	.223**
	Sig. (2-tailed)	.000
	N	263
Leader often compliments other's strengths	Pearson Correlation	.222**
	Sig. (2-tailed)	.000
	N	263
	Pearson Correlation	.207**
	Sig. (2-tailed)	.000

Leader appreciation for other's unique contributions	N	262
Leader show willingness to learn from others	Pearson Correlation	.188**
	Sig. (2-tailed)	.002
	N	263
Leader shows openness to other's advice	Pearson Correlation	.244**
	Sig. (2-tailed)	.000
	N	262
Leader shows openness to other's ideas	Pearson Correlation	.264**
	Sig. (2-tailed)	.000
	N	263

Note. **Correlation is significant at the 0.01 level (2-tailed).

Research Question 2: What differences exist, if any, across demographic variables of leader humility and follower psychological capital for gender, employment duration, and region (urban, suburban, and rural)?

Correlation analyses were also computed across all independent variables to examine relationships between total teacher-reported psychological capital and leader longevity, school geographical location, and gender for both principal and teacher (Table 9). This data included a weak, positive relationship between psychological capital total (r =.131, p <.019) and leader longevity, with a relationship between leaders with more longevity positively related to teacher-reported higher psychological capital. There was also a negative relationship (r = -.454, p <.001) between gender and location of school, as a higher number of rural schools have fewer female principals. Gender was also negatively related to principal longevity, (r = -.134, p <.017), as higher tenure of principals was reported with fewer female leaders. Finally, humility (r = -.123, p <0.25) was found to be negatively related to principal longevity, as there was a weak positive relationship with principals of less than five years reported with higher humble behaviors. There

were no significant relationships between leader humility and geographical location of school. There were also no relationships between leader gender and humility, as well as no relationship found between teacher gender and leader humility.

Table 9

Correlations of Psychological Capital Total and Independent Variables

		PsyCap Total	Humility	Rural	Gender	Leader Gender	Leader Longevity
Pearson Correlation	PsyCap Tot	1.000	.288*	-.009	-.037	.055	.131*
	Humility	.288*	1.000	-.066	-.083	.074	-.123*
	Rural	-.009	-.066	1.000	-.118*	-.454*	-.063
	Gender	-.037	-.083	-.118*	1.000	.082	-.025
	LeadGender	.055	.074	-.454*	.082	1.000	-.134*
	LeadLongev	.131*	-.123*	.063	.025	-.134*	1.000
Sig. (1-tailed)	PsyCap Tot	.	.000	.445	.281	.191	.019
	Humility	.000	.	.146	.095	.120	.025
	Rural	.445	.146	.	.030	.000	.158
	Gender	.281	.095	.030	.	.096	.345
	LeadGender	.191	.120	.000	.096		.017
	LeadLongev	.019	.025	.158	.345	.017	.
N	PsyCap Tot	253	253	253	253	253	253
	Humility	253	253	253	253	253	253
	Rural	253	253	253	253	253	253
	Gender	253	253	253	253	253	253
	LeadGender	253	253	253	253	253	253
	LeadLongev	253	253	253	253	253	253

Note. **Correlation is significant at the 0.01 level (2-tailed).

The investigator also analyzed survey data using a linear regression analysis. The dependent variable in the analysis is the teacher Psychological Capital score. There were five predictor variables: Humility, Rural/Metro, Follower Gender, Leader Gender, and Leader Longevity. The overall regression for the model predicting psychological capital was statistically significant, F (5, 247) = 6.44, $p < .001$ (Table 10). The overall model (with the five

predictor variables) was statistically significant at $p < .001$. The $R = .34$ and the $R2 = .115$, with the model explaining 11.5% of the variance in psychological capital (Table 11). The model suggests psychological capital is predicted by both leader humility ($\beta = .305$, $p < .001$) and leader longevity ($\beta = .177$, $p < .004$), but not the other variables of gender across teacher and principal, or school location (Table 12).

Table 10

Analysis of Variance ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.083	5	1.817	6.440	.000[b]
	Residual	69.671	247	.282		
	Total	78.753	252			

a. Dependent Variable: PsyCap Total b. Predictors: (Constant), Leader Longevity, Gender, Rural, Humility, Leader Gender

Table 11

Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.340[a]	.115	.097	.53110	.115	6.440	5	247	.000

a. Predictors: (Constant), Leader Longevity, Gender, Rural, Humility, Leader Gender

Table 12

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	4.039	.185		21.587	.000
	Humility	.190	.038	.305	5.024	.000**
	Rural	.035	.077	.031	.454	.650
	Gender	-.022	.072	-.018	-.301	.764
	Leader Gender	.081	.076	.072	1.057	.291
	Leader Longevity	.197	.068	.177	-2.905	.004**

Note. a. Dependent Variable: PsyCap Total

A second model was created with only the significant predictors from Model 1. The overall regression for the model predicted psychological capital is also statistically significant, $F(2,250) = 4.374$, $p < .001$ with the $R = .333$ and $R^2 = .111$ including only the two variables, with the model still explaining 11.1% of the variance in psychological capital (Table 13 & 14). The model indicates that psychological capital is predicted by leader humility ($\beta = .309$, $p < .001$) and leader longevity ($\beta = .169$, $p < .005$) (Table15).

Table 13

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.333[a]	.111	.104	.52917	.111	15.621	2	250	.000

Note. a. Predictors: (Constant), Leader Longevity, Humility

Table 14

Analysis of Variance ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.748	2	4.374	15.621	.000[b]
	Residual	70.005	250	.280		
	Total	78.753	252			

Note. a. Dependent Variable: PsyCap Total
b. Predictors: (Constant), Leader Longevity, Humility

Table 15

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.039	.158		25.499	.000
	Humility	.192	.037	.309	5.139	.000
	Leader Longevity	.189	.067	.169	2.813	.005

Note. a. Dependent Variable: PsyCap Total

Analysis of Hypothesis 2:

The second null sub hypothesis is there were no differences across the demographic variable of leader gender and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers. In the current investigation, the null hypothesis would be retained, as there were no significant relationships between teacher-reported psychological capital and leader humility when examining both principal and teacher gender. Differences were only noted for gender related to leader representation in rural communities and longevity, but not for psychological capital of teachers.

Analysis of Hypothesis 3:

The third null sub hypothesis is there are no differences across the demographic variable of leader employment duration and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers. There were differences in follower-reported psychological capital across employment duration of principals. There was a weak positive relationship between psychological capital total (r =131, p < .019) and leader longevity. Principals reported as working more than five years were described by teachers with higher psychological capital. Consequently, the null hypothesis was rejected.

Analysis of Hypothesis 4:

The fourth null sub hypothesis is there are no differences across demographic variable of leader regional location and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers. In the current investigation, the null hypothesis was retained, as there were no significant relationships between teacher-reported leader psychological capital and leader humility for location in Minnesota schools.

Analysis of Hypothesis 5:

The fifth null sub hypothesis is leader humility, gender, employment duration and location do not predict teacher-reported psychological capital. A regression analysis was conducted with the 253 teacher responses to examine the relationship between teacher-reported psychological capital and demographic variables. Results showed F =6.440, p <.001. In addition, leader humility (β = .309, p < .001) and leader longevity (β = .169, p < .005) predicted teacher-reported psychological capital in regression analysis modeling. Consequently, the null hypothesis rejected. Table 16 presents a summary of research findings across all hypotheses.

Summary of Research Findings

Table 16

Summary of Research Findings

Hypothesis	Result	Test	Summary
($H_0$1) There is no relationship between follower-reported leader humility and psychological capital reported by teachers.	Reject	Correlation	There was statistically significant relationship (r=.286, p < .001).
($H_0$2) There are no differences across the demographic variable of leader gender and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.	Failed to reject	Regression	No statistically significant difference.
($H_0$3) There are no differences across demographic variable of leader employment duration and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.	Reject	Regression	There was a statistically significant relationship between leader psychological capital and leader longevity (r =.131, p <.019)
($H_0$4) There are no differences across demographic variable of leader regional location and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.	Failed to reject	Regression	No statistically significant difference.
($H_0$5) Leader humility, gender, employment duration and location do not predict teacher-reported psychological capital.	Reject	Regression	There was a statistically significant difference. Leader humility (β = .309, p < .001) and leader longevity (β = .169, p < .005) predicted teacher psychological capital.

Chapter 4 included analyses on the investigation data utilizing both descriptive and inferential statistics. Descriptive statistics were computed for demographic variables of school location, teacher gender, principal gender, and years of service for principal leader. Inferential statistical analysis was conducted on the research instrument, research questions and hypotheses. Data was analyzed using SPSS-26 (IBM, 2019) from a total of 263 Minnesota 6-12 licensed teachers working in public schools. There were significant and positive relationships established between follower's self-reported psychological capital and followers' perception of principal's, humble behaviors for total expressed humility, and across all elements of psychological capital, and all items on the Expressed Humility Scale. The strongest relationships were noted between principals who request feedback and teacher psychological capital, and leader-humility and teacher reported PsyCap-optimism. In addition, leader humility and principal longevity predicted teacher-reported psychological capital, accounting for 11.1% of the variance of teacher-reported psychological capital.

Chapter V: Discussion, Implications, Recommendations

Overview of the Study

The purpose of this investigation was to explore the relationship between teacher-reported, leader humility and psychological capital in a 6-12 educational setting. Psychological capital has been shown to be related to numerous positive individual and organization outcomes, such as well-being, health attitude, safety, positive workplace behaviors, organizational commitment, and productivity (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2007; Luthans et al., 2013; Luthans et al., 2015; Mello, 2013). While psychological capital has been investigated recently in comparatively fewer educational settings, researchers have noted a positive and significant relationship with teacher well-being and job satisfaction across research, as well as related to authenticity in leadership (Feng, 2016; Kurt & Demirbolat, 2019; Ritter, 2018; Tosten & Toprak, 2017; Viseu et al., 2016; Yalçin & Isgör, 2017). Scholars have also demonstrated the malleable nature of psychological capital, describing increases in thinking patterns associated with hope, optimism, resilience and self-efficacy (Luthans, et al., 2015; Stratman & Youssef-Morgan, 2019).

At the same time, emerging literature on humility is revealing that leadership behaviors such as openness, accurate self- awareness, appreciation of others, and transcendence are critical to developing positive dynamics within teams and organizations (Gonçalves & Brandão, 2017; Li, & Shi, 2018; Nielsen & Marrone, 2018; Rego et al., 2019; Wang, Owens, Li, & Shi, 2018). There is extensive research within the business setting regarding the effects of humility in leader-follower relationships and in the positive dynamics created for problem solving (Goncalves et al., 2017; Rego et al., 2019; Sowick et al., 2017; Wang et al., 2018). Leader humility was noted as a strong mediating variable to psychological capital across geographical regions and multiple

sectors of health care, sales, engineering, and finance sectors in a series of investigations (Rego et al, 2019).

At a time when education is faced with challenges in labor shortages, teacher attrition, human migration, behavior and achievement disparities (Rubinstein-Avila, 2017; Wise, 2015), there is need for examining positive, organizational inputs from leaders (Murphy & Seashore-Louis, 2018). As workplaces evolve, scholars are suggesting leadership must focus on organizational dynamics and positive psychology to create environments for human thriving (Bolsinger, 2017; Hess & Ludwig, 2017; Murphy & Seashore-Louis, 2018).

A survey consisting of the Psychological Capital Questionnaire - 12 (Avey et al., 2011) and Expressed Humility Scale (Owens et al., 2013), as well as teacher demographic factors, was used to collect quantitative data on the relationship between teacher, self-reported psychological capital and teacher reported, leader-humility from licensed teachers in Minnesota schools, grades 6-12. The sample consisted of 287 teachers from middle, junior and high schools across Minnesota. Given the research design, it is unknown how many principals forwarded the survey compared to teachers who agreed to participate. Survey respondents were 287, with 8% (24) of participants stopping at the question regarding leader's humility and not completing the remainder of the survey, with a remaining sample size of 263. Using SPSS-26 (IBM, 2019), survey data was analyzed utilizing both descriptive and inferential statistics. Research hypotheses were then either rejected or failed to be rejected based on the statistical results.

Research Questions and Hypotheses

The following research questions and hypotheses guided this study:

RQ1. What relationship, if any, exists between follower-reported leader humility and follower-reported psychological capital in an educational setting?

$H1_0$: There is no relationship between follower-reported leader humility and psychological capital reported by teachers.

$H1_a$: There is a positive relationship between follower-reported leader humility and psychological capital reported by teachers.

RQ2. What differences exist, if any, across demographic variables of leader humility and follower psychological capital for gender, employment duration, and region (urban, suburban, and rural)?

$H2_0$: There are no differences across the demographic variable of leader gender and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H2_a$: There are significant differences across the demographic variable of leader gender and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H3_0$: There are no differences across demographic variable of leader employment duration and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H3_a$: There are significant differences across the demographic variable of leader employment duration and followes for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H4_0$: There are no differences across demographic variable of leader regional location and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H4_a$: There are significant differences across the demographic variable of leader regional location and followers for the relationship between follower-reported leader humility and psychological capital reported by teachers.

$H5_0$: Leader humility, gender, employment duration, and location do not predict teacher-reported psychological capital.

$H5_a$: Leader humility, gender, employment duration, and location in combination with one another predict teacher-reported psychological capital.

Conclusions

Research Question 1. The results of the Pearson *r* correlation established a positive and significant relationship between total follower-reported psychological capital and humility of the principal-leader. In addition, positive and significant relationships were found between all elements of psychological capital and leader-humility, with teacher reported PsyCap-optimism most strongly related to humble-leader behaviors of the principal. The leader behavior of principals seeking feedback from teachers showed the strongest, significant and positive relationship to the self-reported psychological capital of the teacher.

Research Question 2. The results of the current investigation showed humble-leader behaviors and principal longevity were significantly predictive of teacher psychological capital in regression analysis. Results were significant at the <.001 level. There was a weak, positive relationship between humility of principals and leader longevity, as principals with fewer than 5 years of service was related to higher principal humility. There were no differences in teacher psychological capital for principal gender or differences in rural and metro school location. There were also fewer female principals reported in the rural setting and fewer female principals with higher longevity across the state of Minnesota.

Implications for Researchers

The implications for educational scholars are numerous. While this investigation has established that a relationship exists between the psychological capital of teachers and principal's humble behaviors, there is nothing yet learned regarding causality in school settings, or the direction of this relationship, or the mechanisms of how this relationship dynamic is established by school leaders with followers. Rego et al. (2019) was the first to manipulate leader humility as an independent variable in experimental design with simulated workplace experiences of experimental and control groups, showing significant impact of leader humility on follower-psychological capital. This has not yet been investigated with an experimental design in education and would be a critical next step for educational scholars to study directionality and causation. Examining whether similar significant relationships also exist across other leader-follower relationships within schools is another area of future study. For example, expansion of investigative focus from principal and teacher to superintendent and other leadership roles, may provide more insight into relational dynamics in education.

Further study of the impact of leader humility in education is a second area of critical investigation for scholars. Leadership humility in leader-follower relationships has been noted as a supportive or protective factor in business organizations (Neilson & Marrone, 2018; Owens et al., 2013; Owens et al., 2016; Wang et al., 2018). Impact on problem solving for small groups of teachers, such as in Professional Learning Community (PLC) to leadership teams at the central office could be investigated. Owens et al. (2016) found humility positively predicted team performance in a work-group tasks, with Wang et al. (2018) finding higher ratings in leader humility related to increased reports of coping and both decreased stress and exhaustion in followers. In the current investigation teacher, self-reported PsyCap-optimism showed the

strongest relationship with leader humility. It is worth determining whether an optimistic explanatory set impacted teacher view of principal humility, or whether principal humble behaviors assisted in creating a more optimistic culture or individual teachers within the school workplace. In addition, 8% of the sample did not respond to the questions regarding principal humility, which is worth further investigation regarding the factors that contributed to teacher's unwillingness to continue completion of an anonymous survey.

Numerous scholars have reported that humility research is in its infancy (Neilson & Marrone, 2018; Owens et al., 2013; Rego et al., 2019). There is still much to be discovered about the construct regarding the development, malleability and stability of humility over time and across situation (Owens, 2009; Neilson, et al., 2018). What context-dependent cues in the workplace foster the expression of humility by leaders? What are mechanisms for the development and/or expression of humility in the workplace? In what situations is leader humility more or less important for organizational functioning?

Principal openness to teacher feedback was most strongly related to teacher psychological capital in the current investigation. Examining the element of leader openness is worthy of investigation for discernment of impact on human thriving, and more specific educational outcomes of students related to teachers. The other leader behaviors most strongly related to teacher psychological capital were the principal acknowledging others knowledge/skills, principal openness to others' ideas, and principal admitting when he/she doesn't know how to do something. Understanding the relational dynamics of how teachers are empowered and the mechanisms of appreciating others' contributions, as well as openness to ideas may provide critical understanding as to the impact on positive organizational and individual psychological capital.

Hope has now been found to be a significant, relationship variable in two investigations of psychological capital across education. Ritter (2018) found hope as the only element of psychological capital related to enhanced leadership skills of principals. PsyCap-hope development may be critical to investigate further for impact in educational systems. Isolating hope as a predictor or outcome variable may provide further understanding on improving teacher attrition and other positive organizational behaviors. In the current investigation, teacher PsyCap-hope and PsyCap-resilience were strongly related, as well as PsyCap-hope and PsyCap-efficacy. Do these elements work together uniquely in an educational setting that differs from other sectors? How does teacher, PsyCap-hope impact student achievement and school climate?

There is much to be learned regarding the psychological capital of teachers. In the current investigation, while 11.5 % of the variance in teacher self-reported psychological capital was accounted for, there exist numerous other variables yet to be determined that are related to a teacher's confluence of hope, efficacy, resilience and optimism. Leader humility was a significant predictor of teacher psychological capital in the current investigation, even across groups of teachers without relationships. Investigating the relationship of principals and teacher who work together is a needed next step in research.

Further research is also needed to study both the impact of psychological capital for teachers, as well as the mechanisms for development. Scholars need to understand what workplace, outcome variables are most related to higher levels of teacher's psychological capital. For example, does teacher psychological capital predict student performance across variables of achievement and/or human thriving variables? Does teacher psychological impact predict positive school climate for students? It is yet to be determined how important psychological capital is to education for both staff and student outcomes. Rego et al. (2019) reported collective

or team psychological capital as significant when studying dyads of related leader-followers, which could be replicated in an educational setting.

Qualitative research may reveal how higher levels of hope, resilience, efficacy and optimism are developed in teachers. Examination of journals, observation of interactions, and interviews could assist investigators in studying the mechanisms of psychological capital development related to leader humility. Further research through interview with teachers regarding the reasons behind the relational dynamic of principals who seek feedback from teachers, and the mechanisms for how principals ask teachers for feedback could provide critical information for understanding of psychological capital development. Avey et al. (2012) was the first to examine mechanisms of causality, suggesting positive contagion effect in groups. Owens et al. (2016) also described social contagion as an important mechanism related to "collective humility" (p.1091). Research into humble-leader behaviors, such as openness, appreciation of others, and/or accurate self-awareness may determine the mechanism of the cascade to other school staff, influencing school climate for staff and students.

Investigation into the malleability of psychological capital in education is another critical step. Researchers have previously demonstrated the malleable nature of psychological capital (Luthans, et al., 2008; Luthans, et al., 2015; Stratman & Youssef-Morgan, 2019). Across two experiments, 90- and 120-minute trainings in the elements of psychological capital were noted to improve psychological capital, safety and perception (Luthans, et al., 2008; Stratman & Youssef-Morgan, 2019). It is unknown whether malleability is a critical element in an educational setting for students and for staff. However, where could there be more impact than in overtly teaching psychological capital to teachers and students than in schools?

While gender differences in principal leadership have been noted previously (Burns & Martin, 2010; Burton & Weiner, 2016; Diehl & Dzubinski, 2016; Evers-Gerdes, 2019; Gougeon, 1991; Selzer, Howton, & Wallace, 2017; Schachter, 2017), there were no differences noted in humility or relationship to psychological capital of teachers. However, there are implications for rural Minnesota and the potential fewer females in leadership roles. In addition, gender was also negatively related to principal longevity, as higher tenure of principals was reported with fewer female leaders. Follow-up with the MASSP found of the 597 principals contacted for this investigation, 396 were male and 201 female, with no data regarding gender by location collected (Anderson, personal communication, 2020). It may be that gender barriers are changing, with more tenured principals as male, or that fewer females earn tenure. This was not explored in the current investigation. There already exists research documenting gender disparities in opportunities and barriers (Burton & Weiner, 2016; Diehl & Dzubinski, 2016; Selzer, et al., 2017). It is difficult to determine from one small study what, if any, barriers exist in Minnesota rural, secondary schools for female leadership, compared to other geographical areas. However, further investigation may be warranted to study whether greater barriers exist for females.

Principal years of service was related to psychological capital in teachers in the current investigation. In their investigation on principal longevity, Liu & Bellilas (2018) reported an interactive nature of both job satisfaction intertwined with commitment with an organization, or an attachment to the people and/or culture within a school. These networks of relationships deepened over years of service and were at the decision to stay in leadership positions. An area of future investigation would be the direction and mechanism of the relationship of teacher psychological capital and principal longevity. While principals of less tenure were significantly

and negatively related to higher, teacher-reported humility, principals with longest tenure were significantly-related and predictive for psychological capital of teachers. Future interviews with teachers to understand this difference related to principal tenure is critical for discerning the actual impact variables, direction and possible casual mechanisms for developing teacher psychological capital.

The intersection of authenticity and humility factors in educational leadership is another area of broad research that may produce deeper understanding of positive organizational behaviors across sectors. Authentic leadership researchers described elements of humility as part of their perspective on leadership (Avolio & Gardner, 2005; Clapp-Smith et al, 2009; Zamahani et al., 2011). While authentic leadership is focused on being "true to oneself," (Walumbwa et al, 2008; Gardner et al, 2009), Luthans et al. (2007) described self-awareness as the cornerstone component or skill of authenticity. Self-awareness was reported as a component of humility construct across 100% of all humility research since 2000 (Neilson & Marrone, 2018). Oc et al. (2019) also found leader humility increased follower-perceived authenticity and decreased follower-vulnerability. The intersection of these two leadership variables may be critical areas of study to assist leaders in creating the dynamics associated with positive organizational outcomes, rather than humility alone.

Transcendence is an area of humility that may warrant further investigation by scholars. Collins (2005) original Level 5 leader distinction described those rare leaders as possessing unique qualities of humility, such as giving credit away in success and not blaming others for failures. Collins reported humility, or ambition for the organization rather than self, was the single most critical attribute in differentiating top leadership talent (as cited in Brosnan, 2015). More recently, Collins described humility as the "X factor of leadership," describing

transcendence as “leading in service to a cause with relentless ambition … channeled to a cause bigger than the self,” that “inspires people to follow” (Collins, 2015). In examination of the Expressed Humility Scale, there are no items specific to transcendence, so this aspect of humility was not included as part of the current investigation. If transcendence is as critical as Collins reported, investigation in whether this humility element impacts psychological capital, as well as other critical outcome variables is an important next step.

Recommendations for Practitioners

There exists a myriad of implications for educational practitioners. Avey et al. (2011) previously described the impact of psychological capital in the workplace as highest for fields with the most contact with humanity. Given humility may be an important variable in leadership and supporting teamwork with teachers, hiring practices may benefit from focus on aspects of humility, such as openness, appreciation of others, and self-awareness, rather than solely on content-based skill sets (Hess & Ludwig, 2017; Hough, 2011). Lencioni (2016) argued for a hiring framework related to all employees in an organization, with humility as the core attribute of a successful employee and ideal teammate. Lencioni (2016) provided numerous interview questions to enhance hiring practices to screen for humility. The author also described coaching scenarios to help leaders in providing feedback for improving humble behaviors of staff. Evaluation of leaders and teachers could evolve to providing feedback in humility, particularly openness and seeking feedback from followers. Reflective questions included as part of self-evaluation or other-evaluation processes may benefit in increasing focus related to aspects of humility that were most related to psychological capital.

There are implications for current educational leaders. As practitioners face deep challenges in current practices, how leaders respond to these moments and critics can be

influenced by this research. Do leaders seek feedback from teachers, listen to critics with openness? Do leaders ask questions to better understand the needs and/or thoughts of other stakeholders? Do leaders appreciate other staff and express this to both followers and other leaders who surround them? Do leaders spend time learning these skills, as well as engage in self-reflection to be more aware of their own strengths and/or areas of growth. This research suggests such leader behaviors may be valuable and worthy of development in an educational settings, with more data needed to discern of there is a causal relationship.

There are implications for both leadership training and professional development practices. University training programs may consider training all educators regarding positive organizational behavior, psychological capital, as well as humility elements of self-awareness, appreciation of others, focus of ambition (transcendence) and openness. Whether training special education teachers who supervise para-educators or school leaders who supervise additional staff, it is critical to increase practitioner skills in creating and sustaining effective teams for children in our schools. Understanding leadership dynamics and leadership behaviors that enhance and/or decrease effective organizational school culture should be essential to all educational programs. Scholars have also suggested the inclusion of more adaptive leadership in training programs and training programs for creating successful teams (Anderono et al., 2017; Mello, 2016; Sowcik et al., 2017; Reo, et al., 2019).

There are implications for teaching of psychological capital beyond universities, but also within the K-12 setting. Luthans & Youssef-Morgan (2017) described the initial developments in teaching the skills of psychological capital to students through both traditional and novel methods of gaming instruction, but there has been no research in schools regarding implementation or further research yet in traditional curriculum development. Curriculum could

be developed similar to explicit teacher of social-emotional learning in schools. Effectiveness studies across other educational outcome variables, such as graduation/drop-out rates, college admissions, student achievement may provide impetus for further work in the development a of student-education curriculum. K-12 outcome variables such as positive school climate, rates of bullying and student report of protective factors and risk-taking may be the most effective emotional climate indicators or dependent variables in relationship to training students. As scholars have established the importance of psychological capital to physical and emotional health, as well as relationships (Avey et al., 2011; Dawkins et al., 2015; Luthans et al., 2007; Luthans, Youssef, Sweetman, & Harms, 2013; Luthans et al., 2015; Mello, 2013), and the malleable nature of this trait (Luthans, et al., 2015; Stratman & Youssef-Morgan, 2019), it seems spending time teaching this content to children may produce positive outcomes in human thriving outside of leadership variables and across contexts.

There are also implications across sector for adaptive leadership and problem solving. Leaders within schools and across sectors must increase the psychological and adaptive capital of employees and organizations capable of thriving and successfully the current context of navigating rapid change and complex human challenges (Bolsinger, 2015; Hess & Ludwig, 2017; Rego et al.; 2019; Murphy & Seashore-Louis, 2018). There is promising research suggesting humility, characterized by an openness to ideas and accurate self-awareness, appreciation of others, and transcendence or focus beyond self, is a leader input that creates safety in follower-teams and higher creativity (Gonçalves & Brandão, 2017; Li, 2016; Nielsen & Marrone, 2018; Rego et al., 2019; Wang, Owens, Li, & Shi, 2018). Rego et al. (2019) suggested humble leaders in organizational settings have greater psychological capital, which can promote positive organizational and employee outcomes. Owens et al. (2016) suggested leader humility

is the key to creating a team atmosphere of growth orientation and resultant continual improvement. Humble leader behaviors and psychological capital are two variables that warrant further study for practitioners and researchers as humanity works to solve multifaceted challenges.

Concluding Comments

The purpose of this investigation was to study the relationship between leader humility and teacher psychological capital in Minnesota secondary schools through a quantitative, cross-sectional design. The four independent variables examined in this study were teacher-reported, leader humility, as measured by the Expressed Humility Scale (Owens et al., 2013), principal gender, teacher gender, geographical location of Minnesota schools, and years of service for the principal. Teacher, self-reported psychological capital, as measured by the Psychological Capital -12 Questionnaire (Avey, et al., 2011) was the dependent variable. Principals in 597 Minnesota secondary schools were given the opportunity to forward a survey to their teachers that included both instrument measures included in one survey. Respondents were 287 teachers working for these principals in Minnesota secondary schools. Of the 287, 8% of respondents stopped the survey at the questions regarding their leader's humble behaviors. The sample was a majority of female teachers working in rural Minnesota schools with male principals.

Statistical analysis revealed a positive and significant relationship found between teacher-reported, leader-humility and teacher-reported psychological capital. There was also a weak, but significant relationship between principal longevity and teacher psychological capital, with a significant relationship also between longer-tenured principals and higher reports of teacher psychological capital established. Leader humility also was negatively related to principal years of service at a significant level. There were no differences for variables of teacher gender, leader

gender, and location of school in psychological capital. The only difference for leader or teacher gender was the lower number of female leaders in rural schools, with no differences noted for humility or psychological capital for gender. The study also demonstrated a significant and predictive relationship between both teacher-reported, leader humility and both principal longevity and teacher psychological capital.

This investigation is only a first step in the research of antecedents and outcomes regarding leader's humility and teacher's psychological capital in an educational setting. There is much more to be learned from future investigation with qualitative and quantitative inquiry about the mechanisms of mediation for humility and psychological capital development, in addition to the elements of humility that most affect psychological capital development, including transcendence. A great deal of time and energy has been focused on positive outcomes of physical heath related activities within education, with impact on psychological health only noted as an outcome, rather than psychological health activities studied as an input (Biddle & Asare, 2011). Yet positive organizational scholarship is now providing the impetus and method to investigate the positive leadership qualities and behaviors that are equally promising to creating the strategies and environments for children and adults to thrive in the coming generation. Nowhere is the need for adaptive leadership and human capital development as important as in education, the sector charged with shaping the minds and behaviors of children, our future leaders.

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Appendix A: Email of Introduction to Principal

Dear Principal,

I hope this email finds you well today. I am Kristine Flesher, a doctoral candidate at Bethel University, St. Paul, MN and fellow MN school administrator. I am reaching out to request your help with a dissertation research project. The purpose of this study is to learn more about the factors related to psychological capital in an educational setting. Psychological capital is the confluence of hope, efficacy, resilience and optimism in organizations and is demonstrated to be related to increased job performance, well-being and attitudes of employees. The goal of the study is to understand the relationship between psychological capital and principal leadership for the betterment of our Minnesota schools.

Participation for each principal includes only forwarding a short survey to the teachers in your building. Your identity and school identity will remain entirely anonymous. Participation for teachers is completion of a short survey, estimated to take ***5 minutes or less.*** All teacher responses are also completely voluntary and anonymous. No school or identifying information is gathered. There are no anticipated risks related to your participation. If you have any questions about this study or wish to obtain a summary of the results, you may contact me at klf22634@bethel.edu, or my advisor, Dr. Craig Paulson at craig-paulson@bethel.edu. This study has been previously reviewed and approved by the Bethel University Institutional Review Board (IRB). Thank you for your commitment and service in our Minnesota schools.

The survey will close on January 30, 2020.

Principals, if you consent to the study, please forward this e-mail to your teacher email distribution list.

Teachers, please click **HERE** to view informed consent and take the survey.

Sincerely,

Kristine Flesher, Bethel University Doctoral Candidate, klf22634@bethel.edu

Orono School Administrator

Appendix B: Informed Consent Message to Teacher

Dear Colleague,

You are invited to participate in an anonymous study regarding the development of psychological capital (hope, optimism, resilience and self-efficacy) in Minnesota teachers. Psychological capital has been demonstrated to impact employee well-being, performance and other positive outcomes for staff in other industries. My goal is to learn more about the factors related to the development of psychological capital in teachers. You have been invited to participate because you are a public school teacher working in a secondary school in Minnesota. This survey is part of a doctoral dissertation study at Bethel University, located in St. Paul, Minnesota. If you choose to participate, you will be asked to respond to 25 survey items concerning your perceptions of psychological capital and leader humble behaviors using a Likert scale. The survey is estimated to approximately ***5 minutes or less*** to complete. There are no risks for participation in this investigation. There are no costs to principals or teachers participating. Your responses are completely anonymous and no individual participant, school, principal or organization will be identified. All data will be analyzed in aggregate form only. Your participation in this research project is voluntary. You may choose to not participate and/or withdraw from the study at any time without affecting your relationship with Bethel University. As the questions were originally developed in a business setting, please reflect on terms such as manager similar to building principal or leader.

This research project has been reviewed and approved in accordance with Bethel University's Institutional Review Board. For more information about the study procedures, or any questions, please contact Kristine Flesher at klf22634@bethel.edu, or Dr. Craig Paulson, craig-paulson@bethel.edu, Dissertation Advisor.

By completing this online survey here, you are granting consent to participate in this research.

Teachers, to take the survey please click on the link here.

Thank you!

Kristine Flesher, Bethel University Doctoral Candidate, klf22634@bethel.edu

Appendix C: Survey Instrument

1. Below are statements that describe how you may think about yourself right now. Use the scale to indicate your level of agreement/disagreement with each statement.

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree
I feel confident in representing my work area in meetings with management.	○	○	○	○	○	○
I feel confident contributing to discussions about the organization's strategy.	○	○	○	○	○	○
I feel confident presenting information to a group of colleagues.	○	○	○	○	○	○
If I should find myself in a jam at work, I could think of many ways to get out of it.	○	○	○	○	○	○
Right now I see myself as being pretty successful at work.	○	○	○	○	○	○
I can think of many ways to reach my current work goals.	○	○	○	○	○	○
At this time, I am meeting the work goals I have set for myself.	○	○	○	○	○	○
I can be "on my own" so to speak, if I have to.	○	○	○	○	○	○
I usually take stressful things at work in stride.	○	○	○	○	○	○
I can get through difficult times at work because I've experienced difficulty before.	○	○	○	○	○	○
I always look on the bright side of things regarding my job.	○	○	○	○	○	○
I'm optimistic about what will happen to me in the future as it pertains to work.	○	○	○	○	○	○

2. Below are statements about your perception of leadership behaviors in your building. Use the scale to indicate your level of agreement/disagreement with each statement. (Items used with permission from Dr. Bradley Owens).

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
This leader actively seeks feedback, even if it is critical.	○	○	○	○	○
This leader admits it when he or she doesn't know how to do something.	○	○	○	○	○
This leader acknowledges when others have more knowledge and skills than himself or herself.	○	○	○	○	○
This leader takes notice of others' strengths.	○	○	○	○	○
This leader often compliments others on their strengths	○	○	○	○	○
This leader shows appreciation for the unique contributions of others.	○	○	○	○	○
This leader shows a willingness to learn from others.	○	○	○	○	○
This leader shows he or she is open to the advice of others.	○	○	○	○	○
This leader shows he or she is open to the ideas of others.	○	○	○	○	○

3. Please describe the location of your school district.

○ Rural

○ Suburban

○ Urban

4. Please describe your gender.

- ○ Female
- ○ Male
- ○ Prefer neutral

5. Please describe your building leader’s gender.

- ○ Female
- ○ Male
- ○ Prefer neutral

6. Please describe your building leader's work longevity in your school.

- ○ Less than 2 years
- ○ 2-5 years
- ○ 5-10 years
- ○ More than 10 years
- ○ Unknown

Appendix D: Permission to Use Psychological Capital Questionnaire-12

Kristine Flesher

To whom it may concern,

This letter is to grant permission for Kristine Flesher to use the following copyright material:

Instrument: ***Psychological Capital (PsyCap) Questionnaire (PCQ)***

Authors: ***Fred Luthans, Bruce J. Avolio & James B. Avey.***

Copyright: ***"Copyright © 2007 Psychological Capital (PsyCap) Questionnaire (PCQ) Fred L. Luthans, Bruce J. Avolio & James B. Avey. All rights reserved in all medium."***

for his/her thesis/dissertation research.

Three sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any other published material.

Sincerely,

Mind Garden, Inc.
www.mindgarden.com

Appendix E: Permission to Use Expressed Humility Scale (Owens, 2013)

From: Bradley Owens <bradowens24@gmail.com>
Date: July 22, 2019 at 9:31:39 AM CDT
To: Kristine Flesher <kflesher@orono.k12.mn.us>
Subject: Re: Educational Leadership and Humilty

Hi Kristi,

Your dissertation research questions sound very interesting. Feel free to use the scale. There is no fee or copyright request you need to worry about.

Best of luck to you!

Brad

On Tue, Jan 29, 2019 at 1:40 PM Kristine Flesher <kflesher@orono.k12.mn.us> wrote:

Hi Dr. Owens,

I hope you are well today. I am reaching out as a doctoral student studying educational leadership and very interested in your research regarding humility in leadership and the impact on organizations. I have been reading nearly everything I can find and just finished reading your original paper. I am thinking of attempting to investigate humility in an educational setting for my dissertation, but I am just beginning the process. I wanted to reach out as you appear to have been a part of so much of the organizational research. If you have any suggestions or thoughts as I start, I would greatly appreciate any ideas or thoughts. I have really appreciated your research and interested in applying within an educational setting related to leadership.

Thank you for your time,
Kristi

--
Kristine Flesher
Director of Special Services
Orono Public School #278
Long Lake, MN 55356
952-449-8370

Appendix F: Snowball Survey Communication Example

Dear Colleague,

I am reaching out today to ask for your assistance. One of our Bethel doctoral students and MN school administrators, Kristine Flesher, is conducting her dissertation research regarding principal leadership and teacher-reported psychological capital (Hope, Efficacy, Resilience and Optimism). The MN Association of Secondary Principals sent an email request to all MN principals with a short teacher survey, but the response has been less than hoped so far. I am forwarding and respectfully asking you consider participating through encouraging your teachers to complete a very short survey (less than 5 minutes). Participation for principals is only forwarding the MASSP email below to their teacher distribution list, with teachers only completing the 6-item survey.

Thank you for your consideration and blessings on your week,

Appendix G: Reminder Email to Principals

Dear Colleague,

I am reaching out today to ask for your help. Recently, MASSP sent an email regarding your participation in a dissertation, survey project on leadership and teacher psychological capital from me, Kristine Flesher, a doctoral candidate at Bethel University, St. Paul, MN and fellow Orono Schools administrator. I am sending this follow-up email in the hope you would consider participating through forwarding this email and encouraging your teachers to complete a very short survey.

Your identity and school identity will remain anonymous. Participation for teachers is completion of a survey estimated to take ***5 minutes or less*.** All teacher responses are voluntary and anonymous. No school or identifying information is gathered, with no anticipated risks related to your participation. If you have any questions about this study, you may contact me at klf22634@bethel.edu. This study has been previously reviewed and approved by the Bethel University Institutional Review Board (IRB). Thank you for your consideration.

The survey will close on January 30, 2020.

Principals, if you consent to the study, please forward this e-mail to your teacher email distribution list.

Teachers, please click **HERE** to view informed consent and take the survey.

Sincerely,

Kristine Flesher, Bethel University Doctoral Candidate, klf22634@bethel.edu

Orono School Administrator