

Principals' Mindset: Growth or Fixed?

by

Melissa K. Mlakar

Submitted in Partial Fulfillment of the Requirements

for the Degree of

Doctor of Education

in the

Educational Leadership

Program

YOUNGSTOWN STATE UNIVERSITY

May, 2019

Principals' Mindset: Growth or Fixed?

Melissa K. Mlakar

I hereby release this dissertation to the public. I understand that this dissertation will be made available from the OhioLINK ETD Center and the Maag Library Circulation Desk for public access. I also authorize the University or other individuals to make copies of this dissertation as needed for scholarly research.

Signature:

---

*Melissa K. Mlakar*, Student Date

Approvals:

---

*Dr. Jane Beese*, Thesis Advisor Date

---

*Dr. Charles Vergon*, Committee Member Date

---

*Dr. Xin Liang*, Committee Member Date

---

*Dr. Victoria Kress*, Committee Member Date

---

*Dr. Salvatore A. Sanders*, Dean of Graduate Studies Date

## ABSTRACT

The constructs of mindset, leadership, and school climate interact within the school environment. Mindset drives decisions and behaviors, decisions and behaviors determine leadership style, and leadership style influences school climate. Finally, school climate impacts student achievement and success. Much of the research related to mindset, however, has been focused on students. The purpose of this study was to expand the research regarding mindset and school leadership. This quantitative, descriptive study surveyed building principals in 10 counties in northeast Ohio to determine their growth or fixed mindset. The *Theories of Intelligence Scale (Others Form)* was utilized to determine the principals' mindset. In addition, demographic questions such as gender, level of education, experience, community type, building level, and building size were included in the survey. The study found that 72.2% of principals had a growth mindset, 14.2% had a fixed mindset, and 13.6% scored as unclassified. There were no notable differences between the demographic groups. The findings from this research provide the basis for understanding the mindset of building principals. These results have implications for principal preparation programs and administrator professional development. In addition, the results provide information that can be used to grow transformational leaders within the school environment.

*Keywords:* School leadership, transformational leadership, mindset, growth mindset, fixed mindset

## ACKNOWLEDGMENTS

This experience has been a long, but rewarding, journey. There have been twists and turns along the way, and I am extremely appreciative for those people that have been my support and cheerleaders through it all.

First, thank you to my wonderful husband and three great kids. I never could have finished this daunting task without your love and support. Thank you to my kids for eating sandwiches for dinner and picking your clean laundry out of the basket for days. Thank you to my husband for driving kids around, cleaning up the house, and finally folding that laundry that sat for days in the basket. You all were very patient with me during my times of extreme stress and overload, and you never once let me believe I couldn't do this. Thank you, also, to my mom and dad. You raised me to believe that I can do anything I set my mind to, and this task was no exception. Finally, I am so grateful that you all made the time to come and watch my defense. While I know the topic may not have been super exciting for all of you, your presence during my presentation was so important to me. I will never forget the love and support I felt that day. I love every one of you.

I am also thankful for my 'work family.' To everyone in my office, Jim, Chuck, Cheryl, Marlo, Debbie, Lois, Cynthia, and Crystal, you all played a part in my dissertation completion. From picking up my slack when I was overwhelmed to bringing me treats when I was close to a breakdown, your intuition about what I needed was always spot on. I am very lucky to work in an environment that is so supportive and helpful. I know I can always count on all of you when the chips are down or the going gets tough.

Finally, many thanks to my dissertation committee. Dr. Beese, my committee chair, was both encouraging and steadfast in her resolve to help me finish. After taking a year off, you helped me jump right back in and get on the right track to complete my research and finish my paper. I appreciate your late night responses and your early morning texts to help me stay on track. Your tireless devotion to the process and to my writing has served as an inspiration to me as an educator. Thank you to Dr. Liang for teaching me all I wanted to know, and more, about quantitative research. Your help and guidance with the statistical portion of my dissertation was absolutely invaluable. Thank you to Dr. Kress for your feedback and insight on my writing and research. You brought thoughtful criticisms of my work that helped me to refine my final product. Finally, thank you to Dr. Vergon. Your questions about, and assessment of, my work helped me to produce a final product that was clear and concise.

Completing doctoral coursework and writing a dissertation is not something that happens in isolation. While it can be an isolating task, there was no way I could have completed all the necessary work without the village that surrounds me. Thank you once again to everyone who played a part in my accomplishment. I will be forever grateful that you are a part of my life.

## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	viii
LIST OF FIGURES .....	ix
CHAPTER	
I INTRODUCTION.....	1
Statement of Problem.....	3
Theoretical Framework.....	4
Purpose and Significance of Study .....	6
Research Questions.....	9
Operational Definitions.....	9
Research Design .....	12
Assumptions.....	13
Limitations.....	15
Summary.....	16
II LITERATURE REVIEW .....	17
Theoretical Framework.....	18
Implicit Self-theories and Mindset.....	18
Literature Review .....	24
Leadership Theory .....	25
Climate.....	29
Summary .....	53
III METHODOLOGY .....	55

Research Questions.....	56
Research Design .....	56
Participants.....	60
Instrumentation .....	61
Development of the Eight-Item Scale.....	62
Reliability.....	64
Validity .....	65
Use of the Instrument in Current Research.....	67
Scoring.....	69
Data Collection Procedures .....	70
Data Analysis.....	72
Limitations.....	73
Assumptions.....	74
Summary.....	76
IV RESULTS.....	78
Response Summary.....	79
Demographic Data .....	81
Research Question 1 .....	86
Research Question 2 .....	88
Inferential Statistical Tests.....	99
Summary.....	99
V SUMMARY OF THE STUDY .....	102
Summary of Findings.....	103

Research Question #1: Do Building Principals Have a Growth or Fixed Mindset?.....	105
Research Question #2: Does the Mindset of Building Principals Differ Based on the Principal’s Gender, Level of Education, Experience, Community Type, Building Level, or Building Size? .....	109
Threats to Validity .....	109
Sampling .....	109
Type I and Type II Errors .....	111
Discussion.....	112
Significance of Study.....	119
Future Research .....	123
Conclusion .....	126
REFERENCES .....	128
APPENDICES .....	138
APPENDIX A. THEORIES OF INTELLIGENCE SCALE .....	139
APPENDIX B. DEMOGRAPHIC QUESTIONS ADDED TO THE SURVEY BY THE RESEARCHER .....	140
APPENDIX C. ONLINE CONSENT.....	141
APPENDIX D. IRB APPROVAL LETTER .....	142



## LIST OF TABLES

Table	Page
1	Personal Demographic Information About Respondents .....82
2	Demographic Information of Buildings .....84
3	Mean Score for Mindset Type .....87
4	Distribution of Mindset Type and Principals' Gender .....88
5	Distribution of Mindset Type and Principals' Educational Degree .....90
6	Distribution of Mindset Type and Principals' Years of Classroom Experience .....91
7	Distribution of Mindset Type and Principals' Years of Administrative Experience .....93
8	Distribution of Mindset Type and Building Community Type .....94
9	Distribution of Mindset Type and Building Grade Level .....96
10	Distribution of Mindset Type and School Population.....97
11	Effect Size of Leadership Behaviors That Impact Teaching and Learning.....117

## LIST OF FIGURES

Figure		Page
1	The relationship between constructs .....	22
2	Number of principals as categorized by mindset type.....	86
3	Mindset type and principals' gender .....	89
4	Mindset type and principals' degree.....	90
5	Mindset type and principals' classroom experience.....	92
6	Mindset type and principals' administrative experience .....	93
7	Principals' mindset type and building community type .....	95
8	Principals' mindset type and building grade level.....	96
9	Principals' mindset type and school population .....	98

## CHAPTER I

### INTRODUCTION

Principals can influence student learning. According to John Hattie (2015), school leadership has an effect size of .36 on student learning. While this effect size falls below the average of other influences, it shows that school leaders do, indeed, have an effect on the success of their students. However, Hattie was quick to point out in an article in *Educational Leadership* (2015) that there are specific leadership behaviors that prove to be more impactful than others. Behaviors that have a higher effect on student learning are valuing self-evaluation, effect size = .91; prioritizing high-impact teaching and learning, effect size = .84; clearly defining success, effect size = .77; and challenging students and expecting growth, effect size = .57 (Hattie, 2015). School leaders can impact the learning of the students in their building if they focus on developing these traits.

These leadership behaviors contribute to the climate in a school building. School climate encompasses all aspects of a person's educational experience. The concept of school climate is difficult to define, as it involves innumerable components (Berkowitz, Moore, Astor, & Benbenishty, 2017; Hopson & Lee, 2011; Peguero & Bracy, 2014; Wang & Degol, 2016). However, school climate has been explained as the common individual beliefs in a school building with regards to various building circumstances and factors (Lynch, Lerner, & Leventhal, 2013). Teaching and learning, interactions between school and community, building management and organization, and peer relations are all considered part of school climate (Wang & Degol, 2016). Building leaders impact all of these components. The behavior and beliefs of a building principal will influence how

teachers approach their craft. The relationships that are built between teachers, students, and the community will be affected by the building leader. Finally, the administration of organizational tasks will be directed by building leaders, and thus, impacted by their behaviors and beliefs. Building leadership clearly has an effect on the climate of a school building. School climate has an impact on student success and achievement and teacher engagement (Day, Gu, & Sammons, 2016; Kelley, Thornton, & Daugherty, 2005; Leroy, Bressoux, Sarrazin, & Trouilloud, 2007; McCarley, Peters, & Decman, 2016). Building leaders that create a positive school climate impact the success of their students. A negative school climate breeds disengagement on the part of students and staff. That disengagement contributes to declining student achievement.

How do school leaders develop the traits that create a positive school climate, and how can leadership development programs play a role in this development? Hattie referred to the *mind frame* of the building leader as being critical for the advancement of these traits (Hattie, 2015). However, a more solid body of research exists surrounding mind frame. This research focuses on the mindset of individuals. Carol Dweck developed her theory of mindset to explain how people make meaning of the world around them (Dweck, 2000). According to Dweck, mindset can be viewed as growth or fixed. A person with a growth mindset sees learning as an ongoing process to be continually evaluated. A growth mindset person sees learning as something that can grow and change over time and seeks out challenging tasks to continually learn (Dweck, 2000). In contrast, a person with a fixed mindset is focused on performance and the end result. A fixed mindset person believes that intelligence and personality are fixed entities and people have a finite ability (Dweck, 2000). It is clear through Hattie's research that

the mindset of the building principal affects the success of students. Encouraging and developing a growth mindset in building leaders will impact student achievement and success in their buildings.

### **Statement of Problem**

Mindset, leadership, and school climate are constructs that interact within the school environment to impact student success and achievement. These constructs have an interdependent relationship with one another. Building leaders' mindset influences their behaviors and beliefs. Leaders' behaviors exemplify their leadership style and dictate their decisions and policies (Johns & Moser, 1989). School climate is impacted by the leadership style of a building leader. Leadership influences school climate, and school climate impacts student achievement. According to Maxwell, Reynolds, Lee, Subasic, and Bromhead (2017), student achievement scores were higher in numeracy and writing when they had a positive perception of school climate. In the same study, the results showed that students' achievement was significantly predicted by teachers' perceptions of school climate (Maxwell et al., 2017). In addition, Stewart (2008) examined longitudinal data on individual predictors and school climate on student achievement. Schools that were strong in most supports were more likely to show gains in reading and math. Finally, the findings of a 2009 study by MacNeil, Prater, and Busch indicate that higher achievement scores are attained in schools that report a healthy learning environment. There is a gap in the literature, however, on how the mindset of building leaders influences their behaviors and the decisions they make. The author will address the gap in that research by documenting the mindset of building principals. Documenting the mindset of building principals and examining this mindset in

relationship to gender, level of education, experience, community type, building level, and building size will provide the foundation for future research in the field of leadership and mindset.

### **Theoretical Framework**

The understandings about growth and fixed mindset are derived from Carol Dweck's research about implicit theories of intelligence. Implicit theories refer to people's inherent beliefs about the world around them and contribute to the way that people make meaning of the world (Dweck, 2000). According to Dweck, there are incremental and entity theorists. Incremental theorists believe that intelligence is a malleable trait (Dweck, Chiu, & Hong, 1995). Incremental theorists believe that through experience and learning, people can grow their intelligence or personality (Dweck et al., 1995). In contrast, entity theorists believe that people have a fixed view of personality and intelligence. They believe that there is a limit to the amount of learning that can occur (Dweck et al., 1995). Incremental theorists view the process of learning as valuable as the learning itself. In contrast, entity theorists are focused on performance and achievement. The end result of the task is most important to entity theorists (Dweck et al., 1995). People's implicit theories give rise to their actions, beliefs, and behaviors.

Research in implicit theory has shown a correlation between incremental and entity theories and goal setting, motivation, self-esteem, and failure. Incremental and entity theorists approach each of these areas differently based on their view of intelligence and learning. With regards to goal setting, incremental theorists tend to favor mastery-approach goals (Dinger & Dickhauser, 2013). Mastery-approach goals are achievement goals in which the individual seeks to improve his achievement in

relationship to a standard (Dinger & Dickhauser, 2013). Entity theorists are less inclined to adopt master-approach goals, as they are interested in proving their ability over and over (Dinger & Dickhauser, 2013). In pursuit of their goals, entity and incremental theorists have a different approach also. Dweck et al. (1995) explained incremental theorists as having a mastery-oriented approach to challenges. Incremental theorists view the process of pursuing a goal as important as achievement of the goal (Dweck et al., 1995). Entity theorists, in contrast, are focused strictly on achievement of the goal and their performance. They are motivated to show that they possess the skill or trait or to prove their ability over and over (Dweck et al., 1995).

Implicit self-theories have implications for self-esteem. Entity theorists' self-esteem is tied to their performance. Entity theorists' confidence is contingent on their task performance. Niiya, Brook, and Crocker (2010) contended that entity theorists avoid failure because they view this as a measure of their competence and intelligence. The self-esteem of incremental theorists, however, focuses on increasing their ability in a given situation. Incremental theorists' self-esteem is not contingent on the success or completion of a task (Dweck, 2003). Instead, the process by which learning occurs is as valued as the completion of the task.

People's implicit theories lead to their mindset orientations. Incremental and entity theories of intelligence form the basis for the development of the mindset that drive people's behaviors and decisions. People who have an incremental theory of intelligence and personality are said to have a growth mindset. People who have an entity theory of intelligence and personality are said to have a fixed mindset (Dweck, 2006). People with a growth mindset believe that a person has certain capabilities, but these capabilities are

just the starting point for a person's development (Dweck, 2006). Growth mindset people flourish in an environment that challenges their abilities and increases their learning. In contrast, people with a fixed mindset believe that each person holds a finite level of capability (Dweck, 2006). Fixed mindset people focus on proving themselves and their abilities over and over, and they are intent on ensuring that they do not look deficient in the traits that they possess (Dweck, 2006). These mindsets are inherent in people's beliefs systems, and they use these beliefs to make meaning of the world every day.

Dweck's incremental and entity implicit theories provide the basis for growth and fixed mindset orientation. This mindset orientation provides the foundation for understanding how people make meaning of the world. Understanding people's mindset gives insight into the decisions that are made and the behaviors that are exhibited. Recognizing building leaders' mindset will provide the foundation for understanding their motivation and leadership style. Leadership influences building climate, which, in turn, impacts student learning and achievement.

### **Purpose and Significance of Study**

The purpose of this descriptive study was to document building leaders' growth or fixed mindset and to add to the body of literature regarding leadership and mindset. In addition to documenting the growth or fixed mindset of building leaders, the study also described how the mindsets differ by gender, level of education, experience, community type, building level, and building size. It is essential to identify the growth or fixed mindset of building leaders, as their behaviors and decisions influence the climate of a school building. Student success and achievement and teacher engagement are impacted



by school climate (Day et al., 2016; Kelley et al., 2005; Leroy et al., 2007; McCarley et al., 2016).

Leadership style is the intermediary construct between mindset and climate. Leadership qualities are related to implicit personality theory (Hirschfeld, Jordan, Thomas, & Field, 2008). In addition, there are studies that show a subordinate's understanding or perception of managers' implicit beliefs contributes to their motivation and desire to perform on the job (Hirschfeld et al., 2008; Kam, Risavy, Perunovic, & Plant, 2014). People's growth or fixed mindset influences their behaviors and decisions. Leadership style is based on the manner in which leaders operate within the context of their building. Leaders' beliefs and behaviors define their style.

Building principals' leadership style influences the climate of their building. School climate encompasses all aspects of the educational experience. Relationships, teaching and learning, environment, and safety are all components of school climate. Leadership decisions affect all of these areas. Growth mindset leaders are more apt to create an environment that encourages learning, including risk-taking and mastery-approach goals. Entity mindset leaders are more likely to create an environment that focuses on performance and achievement, as measured at one point in time. Current leadership theory espouses the benefits of transformational leadership in schools. Transformational leaders display characteristics that inspire and motivate their followers to perform and achieve at higher levels (Anderson, 2017). Transformational leadership has been linked to traits of a growth mindset (Anderson, 2017). Documenting the growth and fixed mindset of building principals and examining the variables associated with each mindset will provide a foundation for future research in mindset and leadership theory.

There are gaps in the research related to mindset theory. First, most of the research focuses on students. Although a broad range of students have been included in the studies from elementary school students to college graduate students, the studies have focused on the mindset of those still engaged in the educational process. In addition, the majority of studies have used the classroom as the research setting. Although these studies form the foundation of mindset research, there is a need to extrapolate the information to a broader audience and a wider variety of settings. The demands of school leadership have changed drastically over the years, and leadership research has provided valuable insight into the development of leaders. However, the practical application of this research on training future school leaders, selecting school leaders, and providing professional development for those already in the position has not been employed.

Much of the recent research on leadership theory centers on a leader's ability to adapt to situations. Building leaders must select the best course of action based on the situation they encounter and the followers with which they work. To make decisions, the leaders must make judgments about situations and people. Implicit theory and mindset affect a person's judgments about people and situations (Dweck, 2000). Thus, understanding a leader's mindset will provide information on the decision-making ability and the thought process associated with the decisions.

There have been many studies conducted with regards to mindset. However, most of these studies have focused on students from preschool to college age as the participants (Dweck, 2000). In addition, leadership theory has evolved over the years. The focus on leadership has been on a leader's behaviors. Finally, school climate has been identified as a factor affecting student achievement and success. This study began

to address the gap in the literature that exists between these three constructs, mindset, leadership, and school climate by documenting the growth and fixed mindset of building principals and examining how the mindsets differ by gender, level of education, experience, community type, building level, and building size. This study provides the foundation for future research into the relationship between these constructs

### **Research Questions**

1. Do building principals have a growth or fixed mindset?
2. Does the mindset of building principals differ based on the principal's gender, level of education, experience, community type, building level, or building size?

### **Operational Definitions**

Several constructs are discussed throughout this study. The key constructs of mindset, leadership, and school climate are defined below, as well as salient terms referenced throughout the study. The definitions are well documented in existing literature.

- Entity Theory: The entity theory of intelligence and personality is the belief that a person's intelligence and personality traits are fixed. Intelligence and personality are viewed as entities that live within the person and neither one of these characteristics changes (Dweck, 2000).
- Environment: Environment, within the context of school climate, refers to the physical surroundings in the school building (Cohen & Geier, 2010). Environment encompasses school-wide conditions, as well as classroom conditions.

- Fixed Mindset: A belief about intelligence and personality that says people's basic qualities are finite and cannot be changed (Dweck, 2006). Individuals with a fixed mindset are focused on the outcome, not on the process that leads to the outcome. Fixed mindset people believe that their intelligence or personality, as well as others', will not change. Consequently, they feel the need to prove themselves over and over.

- Growth Mindset: A belief about intelligence and personality that says people's basic qualities can grow and change over time (Dweck, 2006). Individuals with a growth mindset view learning and living as a process. The process is as important as the outcome in any situation, and growth towards a goal is as important as achieving the goal.

- Implicit Theories: Implicit theories relate to a person's inherent beliefs about the world around them. Personality traits and views of intelligence are attributed to a person's implicit theory. There are two forms of implicit theories: entity and incremental theory (Dweck, 2000).

- Incremental Theory: The incremental theory of intelligence and personality is the belief that a person's intelligence and personality traits are malleable. Incremental theorists believe that a person's intelligence and personality can grow and change over time (Dweck, 2000).

- Mindset: Mindset is the psychological process that develops from a person's implicit theory (Dweck, 2006). It affects the way people view themselves, the world, and others. Mindset impacts the manner in which people approach learning, how they view personality traits of themselves and others, motivation, goal-setting, and self-esteem. Mindset takes two forms: fixed mindset and growth mindset.

- Relationships: The relationship component of school climate refers to the connectedness students feel to other individuals in the school (Cohen & Geier, 2010). Relationships are formed between students, between students and teachers, between teachers, between the building principal and students, and between the building principal and teachers.

- Safety: With regards to school climate, safety addresses the need to feel physically and emotionally free from harm while at school (Cohen & Geier, 2010). Violence and personal victimization are factors of school safety.

- School Climate: School climate is the social, emotional, civic, and academic experiences of individuals within the school building (Cohen & Geier, 2010). School climate research typically focuses on four areas of the school experience: relationships, teaching and learning, environment, and safety (each of these areas is defined separately in this section). Climate involves how individuals interact with one another, how teachers instruct students and how learning is encouraged, how students engage in their own learning, and how secure students feel with the school walls.

- Teaching and Learning: This teaching and learning component of school climate relates to the educational processes that occur within the school building. High academic standards, a variety of learning tasks, and an emphasis on growth are ways that teaching shapes the learning that occurs in classrooms (Cohen & Geier, 2010). Student participation, ownership of learning, and individual motivation enhance the learning process for students (Cohen & Geier, 2010).

- Transformational Leadership: A leadership style that is characterized by specific inspirational and motivation behaviors exhibited by the leader (Anderson, 2017).

Transformational leaders strive to motivate their followers to higher levels of achievement through increasing intrinsic motivation. Teacher empowerment and a shared vision for systematic change are components of the transformational leadership style (McCarley et al., 2016).

### **Research Design**

Non-experimental research is important in education as there are many non-manipulable variables that need further study (Johnson, 2001). This study used a quantitative, non-experimental survey design to document the growth or fixed mindset of building principals and to describe how the mindsets differ in regard to the variables of gender, level of education, experience, community type, building level, and building size. The primary function of survey research is to explain the attributes of a defined population (Fraenkel, Wallen, & Hyun, 2012). In addition, in survey research the researcher documents how the participants disperse themselves over one or more variables (Fraenkel et al., 2012).

The population was principals in Ohio, and the target population was drawn from public school buildings in 10 counties in the northeast region of Ohio. A voluntary, online survey was sent to 847 building principals. The survey included the *Theories of Intelligence (Others Form)* and general demographic questions that included gender, level of education, years of experience, community type, building level, and building size. When utilizing a survey design method, response rate is crucial to the validity of the study. Increased response rates will lead to an increased probability of the sample being characteristic of the population (Baruch & Holtom, 2008). Five hundred six participants were needed at a 95% confidence interval with a 4% error rate, according to Fowler's

Sample Size Table (1988). In order to achieve at minimum a 60% response rate from schools and maintain the 506 participant threshold, it was necessary to increase the sample size to approximately 844 schools.

Utilizing the secure, confidential online platform of SurveyMonkey, the researcher collected and analyzed the data reported by the participants. Electronic questionnaires provide some advantages in survey research. Increased convenience, reduced cost of distribution, decreased data entry, a multimedia interface and allowance for response on portable devices, and more rapid turnaround time are all advantages of administering a web-based survey (Fraenkel et al., 2012). A web-based survey was utilized in this study to increase the efficiency of distribution to participants and to aid in the data collection. Disadvantages in utilizing a web-based survey include lower response rates and inaccurate data entry on the part of the participants (Fraenkel et al., 2012). The sample size in the study was increased to account for the possibility of lower response rate, and the survey questions are direct and clearly worded to aid in the accuracy of responses.

### **Assumptions**

There is an interdependent relationship between the constructs of mindset, leadership, and school climate. It is assumed that the relationship between these constructs is accepted as a reality. The influence and effect of one construct upon the other must be accepted to understand their interaction. Implicit theories, and their resulting mindsets, sit at the center of the relationship. A person's mindset influences his decisions and behaviors (Dweck, 2006). Leadership style evolves from the behaviors and decisions a school leader exhibits. Transformational leadership, identified by Anderson

(2017) as the preferred leadership style of current school leaders, is related to school climate. Finally, school climate is a multi-dimensional construct that encompasses all aspects of the educational experience (Hopson & Lee, 2011; Wang & Degol, 2016). It is assumed that there is an interdependent relationship between mindset, leadership, and school climate.

In addition to the assumption of the interdependent relationship between constructs, there are also certain assumptions with regards to the individual constructs. It is assumed that growth mindset is the preferred mindset for school leaders. Growth mindset individuals see intelligence and personality as entities that grow and evolve with experience and learning (Dweck, 2006). Fixed mindset people believe that people are born with a fixed personality or limited intelligence (Dweck, 2006). There is a relationship between growth mindset and transformational leadership (Anderson, 2017). Transformational leadership has been identified as a preferred leadership style (Anderson, 2017). It must be assumed that a growth mindset is the desired mindset of a building leader in today's schools.

An assumption must also be made with regards to the constructs of leadership. It must be assumed that building leaders exhibit behaviors and make decisions that conform to a leadership style. Leadership theory has evolved over the years. Trait-based leadership was the focus of early research (Zaccaro, 2007). In subsequent years, leadership research examined contingency leadership theory and situational-based leadership (Johns & Moser, 1989; Vroom & Jago, 2007). However, recently, transformational leadership has emerged as the preferred leadership style for modern schools (Anderson, 2017). Transformational leaders motivate their followers to achieve



greater results (Anderson, 2017). Building leaders' behaviors and decisions determine their leadership style. It is assumed that all building leaders exhibit behaviors that are observable and measurable in order to identify their leadership style.

### **Limitations**

There are limitations with regards to the study. The first limitation deals with the operational definitions utilized by the researcher. School climate is difficult to define as it includes a myriad of components. The researcher documented the most concise definition and its components in order to relate the mindset research to the basic components of school climate. In examining research on school climate, it may be noted that additional and/or different terms and components may be described. The researcher believes that the most general components have been detailed in this study, and any other description or definition of school climate will contain similar, or equitable, components that will allow for generalization of the findings.

External validity of this study may also be a limitation. Validity is defined as a reference to how appropriate, how meaningful, or how useful the researcher's specific assumptions are based on the collected data (Fraenkel et al., 2012). External validity deals with the degree to which the results from the study can be generalized to other groups or settings outside the research study (Fraenkel et al., 2012). The study's target population is from a specific geographical location. In addition, only public school buildings are included in the sample. To alleviate the concerns about the external validity of the study, a purposive sampling procedure is utilized. Despite the limited geographic area, a wide variety of schools are included in the sample so as to account for concerns about external validity. Demographic information is included about the school districts

and principals that participated in the study to allow for generalizability to other districts in Ohio.

Finally, a social threat to construct validity may be hypothesis guessing on the part of the principals. Principals desire to show a growth mindset may influence their responses on the survey. Dweck and her colleagues (1995) showed that incremental items on the *Theories of Intelligence Scale* are more compelling to respondents (Dweck et al., 1995). Participant responses will be confidential and anonymous, so this limitation may be minimized. In addition, the reliability of the 8-item instrument for measuring implicit theories has been shown to have a high reliability (.93; Levy et al., 1998).

### **Summary**

This non-experimental descriptive study sought to add to the body of literature surrounding mindset, leadership, and school climate. This study documented building principals' growth or fixed mindset and discuss demographic variables in relation to the mindsets. Utilizing a voluntary, online survey, data were collected anonymously from the target population. Participants were building principals in the geographic location of northeast Ohio. The *Theories of Intelligence (Others Form)* was administered to ascertain the growth or fixed mindset of building principals. In addition, demographic questions related to gender, level of education, years of experience, community type, building level, and building size were included in the survey so that the mindsets could be examined with regards to these variables. The results of this descriptive study provided the foundation for future research that may examine the relationship between mindset, leadership, and school climate.

## CHAPTER II

### LITERATURE REVIEW

Leadership behavior influences a variety of school variables, including motivation, relationships, climate, and student achievement. Leaders' behaviors are driven by their mindset. Mindset is labeled as either growth or fixed (Dweck, 2006). Leaders with a growth mindset believe that intelligence and personality can change and evolve through learning (Dweck, 2006). Leaders with a fixed mindset are focused on maintaining the level of performance that exists because they do not believe intelligence or personality can change (Dweck, 2006). Building leaders' mindset impacts the climate of their building.

School climate has been studied in relationship to student achievement and engagement, relationships, and safety and security. Student achievement and success are impacted by a positive school climate (Berkowitz et al., 2017; Hopson & Lee, 2011; Kelley et al., 2005). In addition, higher student engagement, GPA, and reading scores have been reported in schools with a positive climate (O'Malley, Voight, Renshaw, & Eklund, 2015; Ripski & Gregory, 2009; Zullig, Huebner, & Patton, 2011). Finally, safety and security within a school is often reported using disciplinary incidents. Schools with higher reported disciplinary issues report a more negative school climate (Sulak, 2016).

Leaders' mindset affects their leadership style. Leadership style influences the school climate, which, in turn, impacts student achievement and engagement. Teacher engagement is also impacted by leadership style. This study sought to examine a building principal's mindset. In understanding a principal's mindset, there are

implications for the preservice training, hiring, and ongoing professional development of building leaders who foster a particular mindset in order to impact school climate.

## **Theoretical Framework**

### **Implicit Self-theories and Mindset**

According to Carol Dweck, there are two theories of intelligence: incremental theory and entity theory (Dweck, 2000). Entity theorists believe that intelligence is a fixed trait. To an entity theorist, intelligence does not change. An entity theorist believes that people can learn new things; however, there is a ceiling to the amount of learning that can occur, and people are limited by the amount of intelligence they have (Dweck et al., 1995). Incremental theorists, conversely, believe that intelligence is a malleable trait. Incremental theorists believe that through experience and learning people can grow their intelligence (Dweck et al., 1995). Entity and incremental theorists also hold beliefs about personality. Entity theorists are concerned with validating the defined set of personality traits they possess (Dweck, 2000). In contrast, incremental theorists seek out situations in which they can develop themselves and the traits they possess (Dweck, 2000). These beliefs about intelligence and personality are known as implicit theories because they refer to a person's inherent beliefs about the world around them. Extensive research shows there are certain traits and behaviors that people exhibit based on their beliefs about intelligence. Certain personality traits can be attributed to each of the theories. Studies have shown correlations or relationships between self-esteem, goal setting, failure, and motivation with regards to both incremental and entity theorists.

With respect to achievement goals, incremental theorists are more apt to embrace mastery-approach goals (Dinger & Dickhauser, 2013). Mastery-approach goals are

achievement goals in which an individual aims to improve, or avoid decreasing, his achievement in relationship to a personal or task-based standard (Dinger & Dickhauser, 2013). Consequently, incremental theorists tend to select achievement goals based on the opportunity to learn or grow in their knowledge. Entity theorists are less orientated towards mastery-approach goals (Dinger & Dickhauser, 2013).

Self-esteem is also affected by mindset. Self-esteem of entity theorists is tied to their performance and, as such, creates a situation in which entity theorists' confidence is based on their task performance. Entity theorists tend to avoid failure as they see this as a measure of their competence and intelligence (Niiya et al., 2010). Finally, theories of intelligence have also shown an impact on judgment and reaction. Entity theorists tend to explain behaviors in terms of fixed traits. They foster a helpless approach to personal setbacks and lean towards retribution for transgressions (Dweck et al., 1995).

Incremental theorists hold a very different view of the world. With their primary belief system founded in growth and learning, their approach to situations and their perceptions of behavior are in sharp contrast to entity theorists. Incremental theorists are less likely to avoid mastery goals (Dinger & Dickhauser, 2013). They tend to embrace their goals, despite the difficulty associated with the task and seek to achieve mastery, rather than just the completion of the task (Dweck, 2000). Self-esteem of incremental theorists tends to be focused on increasing ability, not simply showing that they already possess the skill. Their self-esteem typically is not contingent on success or completion of the task (Dweck, 2003). Consequently, incremental theorists face challenges very differently than those with an entity outlook on the world. Dweck et al. (1995) referred to a mastery-oriented approach when explaining incremental theorists' response to

personal setbacks. This finding implies that in the face of difficulty or struggle, incremental theorists view the process as important as the product. Finally, incremental theorists' judgment tends to focus on mediational factors. They are more likely to recommend remedial action and focus on education to promote change and rehabilitation (Dweck et al., 1995).

Dweck and her colleagues contend that people's beliefs about intelligence form the framework for the meaning people make about the world around them. People's beliefs about intelligence permeate their actions and behaviors as they live their lives. The differences in beliefs about intelligence and personality lead people to think, feel, and behave differently in identical situations (Dweck, 2000). This meaning-systems approach to understanding behavior has been studied extensively in many fields of psychology (Dweck, 2000). Thus, the explanation of implicit entity and incremental theories forms the basis for the development of the mindset that drives the behaviors and decisions that are made by individuals in a given situation.

Both of the implicit theories lead to a mindset orientation. Dweck's identification of the two mindsets is rooted in the incremental and entity theories of intelligence (Dweck, 2006). The mindsets are growth and fixed mindsets, respectively. People with an entity theory of intelligence tend to have a fixed mindset. People who have an incremental theory of intelligence typically prove to have a growth mindset. Fixed mindset individuals believe that a person possesses certain traits and characteristics that are permanent. Fixed-mindset people believe that there is finite capability that each person holds. In contrast, growth mindset people believe that people have certain capabilities, but that these capabilities are just the starting point for their development

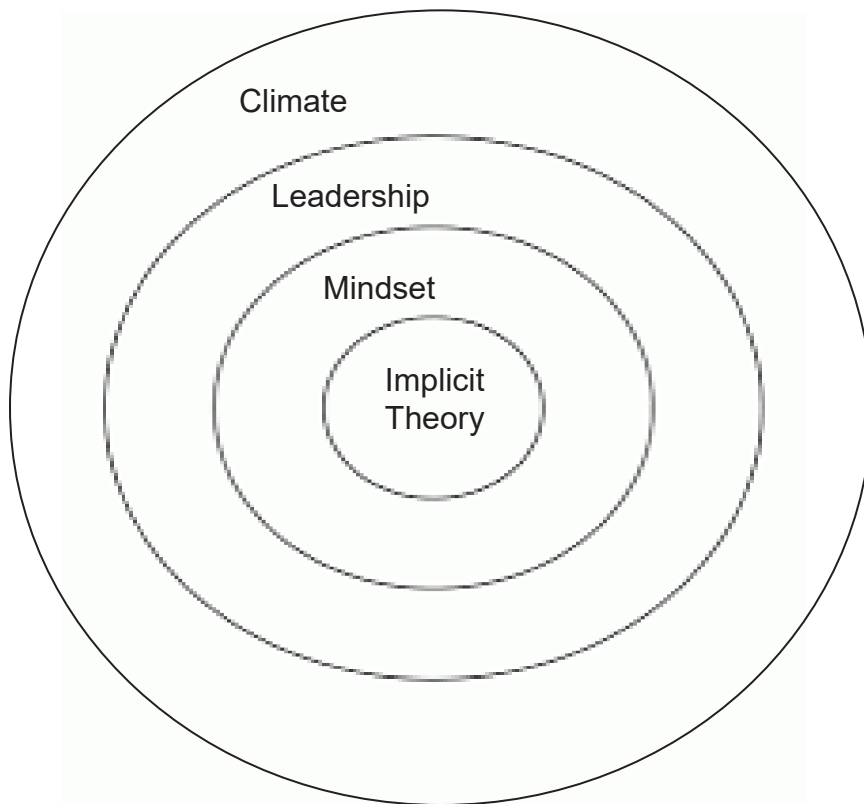
(Dweck, 2006). These mindsets are inherent in people's belief systems, and people draw on these implicit beliefs when they make meaning of the world around them. In constructing meaning, people make decisions or behave in certain ways based on these implicit beliefs.

People with a fixed mindset focus on proving themselves over and over (Dweck, 2006). Because people with a fixed mindset believe that a person has a certain personality, a specific IQ, or a specific moral character, they focus on proving these specific traits to be constant at all times. They are intent on ensuring that they do not look deficient in the traits that they possess (Dweck, 2006). Their motivation, self-esteem, and goals mirror their desire to validate their intelligence, moral character, or positive personality traits. Fixed-mindset people gravitate towards activities and goals that they can easily accomplish. People with a fixed mindset are more likely to fear challenge and devalue effort (Dweck, 2006).

In contrast, people with a growth mindset thrive on learning and challenging themselves. Growth mindset people believe that there are differences among people. However, they believe that through application and effort, everyone can grow and change (Dweck, 2006). Belief in a growth mindset does not mean that one believes everyone can be a nuclear physicist or a Nobel Prize winner. Instead, growth-mindset people believe that everyone's potential is unknown (Dweck, 2006). People with a growth mindset focus on stretching themselves, and their abilities, and fulfilling potential.

The research on implicit self-theory and mindset has implications for those in leadership roles. In a study of emerging leadership, the authors relate leadership qualities to implicit personality theory (Hirschfeld et al., 2008). This study examined the observed

leadership potential of experienced people in team settings in their workplace (Hirschfeld et al., 2008). The study shows a correlation between implicit personality theory and certain traits associated with leadership, such as motivation, cooperation, helping (or coaching), and confidence. In another study, researchers showed that a manager's mindset has implications for subordinates' impressions of that manager (Kam et al., 2014). Because implicit theories relate to the belief system of an individual, when a subordinate has a certain understanding of the belief system of his manager (leader), it affects the behavior of the subordinate. Entity and incremental theory perceptions are



*Figure 1.* The relationship between constructs. The relationship between implicit theory, mindset, leadership, and climate. Implicit theories are the core of what a person believes. These theories result in a person's mindset. Mindset influences the leadership behavior of individuals. The climate of a building encompasses these constructs and creates an environment for a symbiotic relationship to exist.



Also associated with motivation to improve work performance (Kam et al., 2014). It is clear that leaders' mindset will impact their leadership style.

The logic model in Figure 1 shows the relationship between the constructs in this study. The concentric circles illustrate how one construct grows into another, thus each construct impacts the others. At the core of every being are their implicit theories. Implicit theory is a person's beliefs about intelligence and personality, and it is how they make meaning of the world around them (Dweck, 2000). Dweck (2000) divided implicit theory into two domains: incremental and entity. An entity theorist believes that people can learn new things; however, there is a ceiling to the amount of learning that can occur (Dweck et al., 1995). In contrast, incremental theorists believe that intelligence is a malleable trait, and learning is continuous (Dweck et al., 1995). Implicit theories lead to a person's mindset, which is illustrated in the second ring of the logic model.

Based on implicit theories, mindset was also divided into two domains: fixed mindset and growth mindset (Dweck, 2006). Entity theorists tend to have a fixed mindset, and incremental theorists tend to have a growth mindset (Dweck, 2006). People with a fixed mindset believe that a person's intelligence and personality are permanent and unchangeable. Fixed mindset people do believe that people can learn; however, they also believe that there is a limitation to the amount of learning and changing that can occur (Dweck, 2006). Growth mindset people, on the other hand, believe that learning and change occur throughout a lifetime, and personal capabilities are just the starting point for development (Dweck, 2006). Mindset influences the decisions that people make and the behaviors they exhibit. Decision making and behavior are key components of all leadership theory.

Differences in beliefs about intelligence and personality lead people to behave in certain ways and make certain decisions. The third ring of the logic model shows that leadership style is intermediate between personal mindset and school climate. Leadership theory rests on the manner in which leaders operate within the context of their school building. In an age of increased accountability and emphasis on performance, school leaders must be mindful of the approach they take to effect change. Transformational leadership is a style by which leaders inspire and motivate their followers to perform and achieve at higher levels (Anderson, 2017). Transformational leadership has been linked to leaders who exhibit the characteristics of a growth mindset (Anderson, 2017). Behaviors and beliefs define school leaders. Leaders need to exemplify certain traits and exhibit certain behaviors to effect change and growth within their buildings. School climate is impacted by the leadership style of the building leader.

School climate seemingly envelops all facets of a person's educational experience. Most importantly, student achievement and teacher engagement have been linked to school climate (Day et al., 2016; Kelley et al., 2005; Leroy et al., 2007; McCarley et al., 2016). School climate has been examined with regards to four domains: relationships, teaching and learning, environment, and safety (Cohen & Geier, 2010). There is an interaction between the leadership style of building leaders and the climate of the school in which they lead. Leaders with a growth mindset recognize the potential in their schools and work to provide the necessary supports for everyone's success.

### **Literature Review**

Mindset, leadership, and climate are constructs that interact in the educational environment. A building leader's mindset influences the behaviors in given situations.

Behavior of students, teachers, and building leaders influence the climate of a building. This review of literature focused on how these constructs interact within the school environment with regards to four domains: relationships, teaching and learning, environment, and safety.

### **Leadership Theory**

The study of leadership and those that hold leadership positions has been evolving since the early 1900s. Many researchers have sought to clearly define leadership in order to study it. Early leadership research focused on a trait-based model of leadership. These early studies of leadership effectiveness sought to identify unique attributes possessed by leaders as opposed to nonleaders (Zaccaro, 2007). However, there is an inherent difficulty in identifying specific characteristics that define leadership, thus making it problematic from a researcher standpoint (Johns & Moser, 1989). Consequently, researchers began to study leader behaviors or actual acts in order to better quantify effective leadership (Johns & Moser, 1989).

As leadership theory evolved, the focus became contingency leadership theories. Contingency leadership theories take into account both the kind of leader and the exhibited behaviors, as well as the situations in which the leader operates (Vroom & Jago, 2007). Fiedler's Contingency Model is one of the first models of leadership theory that put together leadership traits and situational variables (Vroom & Jago, 2007). Fiedler divided leaders into task-motivated leaders and relationship-motivated leaders. Fiedler contended that it was imperative to match a leader with a situation that is favorable to personal style in order for maximum effectiveness. In essence, Fiedler

espoused the idea that various leadership behaviors may be effective, given the situation that is presented (Johns & Moser, 1989).

Another contingency model of leadership that emerged in the 1970s is House's path-goal theory. According to House (1996), the performance and satisfaction of subordinates justifies the leader's role. This theory details eight classes of leadership behavior that are likely to increase worker performance and job satisfaction if employed under the right conditions. House contended that it is unlikely that a leader will, or can, exhibit all of the behaviors that are detailed. Instead, effective leaders must choose the behaviors that best suit their personality and skill set (House, 1996).

Emerging from previous research, situational leadership was identified as a form of contingency-based leadership built upon the idea that leaders must respond to their environment. Situational leadership theory purports that a leader has a rational understanding of the situation and an appropriate response (McCleskey, 2014).

Situational leadership theory provides a framework for the components of leadership adaptability. As reported by Ireh and Bailey (1999), situational leadership theory encompasses two distinct categories of leadership behavior: relationship behavior and task behavior. Relationship behaviors are those that involve communication and interpersonal skills. These behaviors have implications when working within the political arena or eliciting buy-in for a particular change. Task behavior is that which relates to getting the work done, delegating, assigning roles, etc. These are the behaviors that lend themselves to the business manager role that a superintendent must fulfill. Situational leadership theory posits that these two types of behaviors combine to form four different styles of leadership that a leader can employ: telling (high task/low relationship), selling

(high relationship/high task), participating (high relationship/low task), and delegating (low relationship/low task) (Ireh & Bailey, 1999). Knowing the maturity level of the group of followers guides a leader in choosing which style is best to use. Maturity is defined by Ireh and Bailey (1999) as followers' capacity and willingness to own and manage their behavior. By selecting the most appropriate leadership style, building leaders may position themselves for greater success when attempting to effect change within the building. Leaders' growth or fixed mindset will influence their judgment of their followers.

More recently, as accountability and mandates have increased, transformational leadership theory has come to the forefront in discussions about educational leadership. Recognizing the need for schools to conduct their business in a new manner and understanding the new requirements for building leaders' success, it became necessary to examine educational leadership through an unconventional lens. Transformational leadership has been examined with respect to business organizations for several decades (Anderson, 2017; McCarley et al., 2016). The original definition, coined by James McGregor Burns, stated that transformational leadership is a leadership style by which leaders increase followers' motivation to reach higher performance and achievement levels (Anderson, 2017). Currently, however, an exact definition of transformational leadership in education is difficult to ascertain. In examining the research, transformational leadership is best understood by examining the key characteristics associated with the leadership style.

First, transformational leaders inspire all stakeholders within the organization to improve their performance (Anderson, 2017; McCarley et al., 2016). Within the school

setting, this includes both students and teachers. A transformational leader encourages staff and students to view things differently, including the organization, the policies, and the processes, and to take risks to work towards improvement (Day et al., 2016). They create a variety of learning experiences for students and staff within their buildings (Day et al., 2016; McCarley et al., 2016). These learning experiences are designed to encourage growth and learning (Anderson, 2017; McCarley et al., 2016). According to Anderson (2017), transformational leaders tolerate mistakes, as they see that the growth and learning towards the goal are as important as the achievement of the goal itself. The transformational leader also creates a shared vision with the stakeholders in the building (Anderson, 2017; Day et al., 2016). This shared vision is critical, as it provides the finish line towards which all work is directed. Finally, the transformational leader maintains high expectations for the staff and students in the building (Anderson, 2017; Day et al., 2016; McCarley et al., 2016). These high expectations are reflected in the vision statement and are embraced by all within the organization.

Transformational leaders motivate and inspire the followers within their organization to improve. For teachers, this may mean increasing their effectiveness by utilizing data to meet students' learning and social emotional needs. For students, this may mean increasing their intrinsic motivation to learn new things. For parents, improvement may mean looking at how better to support their students at home. For the community, this may mean changing the means by which they support schools and student learning. In our current performance-driven culture, transformational leaders are necessary for change and improvement. Anderson (2017) posited that transformational leaders are the best fit for schools in the 21<sup>st</sup> century. It is clear that the expectations for

educational institutions are evolving, and school leaders must also evolve. In order for this evolution to occur, however, conditions must support the change. A positive school climate embodies the necessary conditions for this leadership style to be effective (McCarley et al., 2016).

### **Climate**

There are many factors that affect student learning. One widely studied area is the impact of school climate on student achievement. The construct of school climate (also referred to as school culture) in the research is difficult to define (Berkowitz et al., 2017). In addition, there are a myriad of components that have been associated with school climate, making it difficult to pinpoint one particular area for improvement (Hopson & Lee, 2011; Peguero & Bracy, 2014; Wang & Degol, 2016).

School climate is multidimensional and includes many facets of the educational process (Hopson & Lee, 2011; Wang & Degol, 2016). The concept has been defined as the shared beliefs of people within a school building with regards to various school contextual components (Lynch et al., 2013). School climate encompasses essentially every aspect of the school experience, including teaching and learning, interactions between school and community, building management and organization, and peer relations (Wang & Degol, 2016). It has been associated with feelings of belonging and avoidance of risk behaviors (Hopson & Lee, 2011; Lynch et al., 2013). Climate has also been tied to student resilience (Hopson & Lee, 2011). The behaviors exhibited in an environment can help shape a climate that is responsive to student needs. This responsiveness leads to higher student engagement, which in turn affects the climate.

The cyclical nature of the interaction of these factors makes it difficult to isolate one factor for examination and research.

Much of the research on climate refers to specific domains that researchers examine with regards to the construct. The four domains are relationships, teaching and learning, the institutional environment, and safety (Cohen & Geier, 2010). All interactions within the educational realm can be placed into one of these domains to be studied and analyzed. In addition, framing these four domains allows for concentrated professional development and programming to improve weak areas that affect the overall climate of a school or a district.

Finally, school climate can be considered individually, as well as collectively (Berkowitz et al., 2017; Ripski & Gregory, 2009). The individual level can relate to how an individual student experiences the school environment, or the individual level can relate to one classroom within the larger school context (Ripski & Gregory, 2009). The collective level of school climate can refer to a whole school perspective or the district level climate (Ripski & Gregory, 2009). In essence, the interactions and behaviors that occur between people in an environment create the climate of that environment. Understanding the level of climate being examined and analyzed allows for a deeper understanding of the factors associated with the construct.

**Relationships.** The relationships that students experience in school help to shape their behaviors (Cohen & Geier, 2010). Those relationships can be peer relationships or adult relationships within the school setting. Student interactions with peers and adults impact their social and academic development. Positive school climate is characterized by supportive, caring relationships (Hopson & Lee, 2011). These relationships impact



student learning and achievement. Research shows that relationships are important for student success (Crosnoe, Johnson, & Elder, 2004; Hopson & Lee, 2011; Reynolds, Lee, Turner, Bromhead, & Subasic, 2017). Relationships within the school environment start with the building leader, and trusting relationships are a core part of the transformational leadership style (Anderson, 2017; McCarley et al., 2016). Principals must foster a collaborative approach within the school and build trust with their teachers. A top-down approach to leadership does not build confidence or strengthen bonds between professionals (Townsend, Acker-Hocevar, Ballenger, & Place, 2013). Invoking a shared leadership approach helps to build trust with teachers. Transformational leadership encourages shared leadership while setting the expectation for high achievement for all involved (McCarley et al., 2016). In addition, a supportive relationship, rather than one that is based on external pressure, builds professional trust (Anderson, 2017; Townsend et al., 2013).

Building leaders must also foster strong relationships between parents and the school. Strong home-school relationships have a positive impact on chronic absenteeism and student achievement (Creemers & Kyriakides, 2010; Van Eck, Johnson, Bettencourt, & Johnson, 2017). Mindset impacts a person's relationships. People with a growth mindset have been shown to be more interested in fostering relationships that promote their personal growth (Dweck, 2000). Those with a fixed mindset tend to gravitate to relationships that validate their existing beliefs about themselves (Dweck, 2000). Transformational leaders with a growth mindset will nurture relationships that encourage learning and growth. Building leaders that nurture positive, supportive relationships with

teachers create an environment that encourages positive, supportive relationships among all the stakeholders in the building.

*Student-teacher relationships.* Climate is related to how students bond with teachers (Crosnoe et al., 2004). A building leader must create an environment that encourages positive relationships between teachers and students. A critical component for strong student-teacher relationships is trust (Berkowitz et al., 2017; Van Maele & Van Houtte, 2011). Educators who have elevated levels of trust in students see them as more teachable. Low perceived teachability results in less trust of students (Van Maele & Van Houtte, 2011). Consequently, teachers are less apt to create an autonomous learning environment because they do not believe that students can be trusted to learn on their own. This is especially true for students with a low socio-economic background (Van Maele & Van Houtte, 2011). Educators with a fixed mindset formulate their interactions based on judgments of ability and intelligence (Day et al., 2016). Fixed mindset people tend to rely on stereotyping information to form their opinions. Growth mindset people view tasks as challenges and opportunities for learning (Rattan & Georgeac, 2017). Building leaders and teachers with a growth mindset create a climate that promotes incremental learning and achievement. This mindset tends to compensate for the stereotypical beliefs about achievement and allows for a more trusting relationship to build between teachers and students (Rattan & Georgeac, 2017). A building principal with a growth mindset promotes development and learning and creates a trusting environment for teachers and students.

Strong student-teacher relationships also impact student behavior and resiliency (Hopson & Lee, 2011; Lynch et al., 2013). Respect for students lowers risk-related

behaviors (Hopson & Lee, 2011). Supportive relationships with teachers lead to lower levels of delinquent behavior in students and higher levels of engagement among students (Lynch et al., 2013). Lower levels of delinquent behavior mean fewer disciplinary issues and consequently, a more positive school climate (Sulak, 2016). Strong relationships between students and teachers impact the climate of a school by creating an environment in which learning is valued and celebrated. Achievement and success are not measured at one point in time. Student engagement increases in this environment because students are able to see their progress towards their goals and thus, understand that their ability to succeed is based on incremental learning.

Resiliency is a student's ability to put repeated effort into a task despite difficulties, even failures, which he may encounter. Resilience encompasses every effort that is deemed valuable for development (Yeager & Dweck, 2012). Resiliency is an important characteristic of someone with a growth mindset. People with fixed mindsets believe that failure defines them. In fact, most people with a fixed mindset will avoid tasks in which they believe failure is imminent because they believe their abilities are finite and absolute (Dweck, 2006). Resiliency is important for growth and achievement as students must understand that learning is a process. Building leaders with a growth mindset encourages teachers to build strong relationships with their students because they understand the impact that these relationships have on students' development. These leaders understand that student-teacher relationships have an effect on engagement and behavior which, in turn, have an effect on school climate.

***Peer relationships.*** Mindset is a psychological process, and many studies have shown that understanding psychological factors is critical in the evaluation of student

achievement factors (Claro, Paunesku, & Dweck, 2016; Froehlich, Martiny, Deaux, Goetz, & Mok, 2016; O'Malley et al., 2015; Yeager & Dweck, 2012). Mindsets play a role in the relationships that students form with one another (Dweck, 2006). Much like with intelligence and achievement, growth mindset people favor belief in the growth aspects of personality traits and social development. They are more likely to believe that a relationship can grow and change over time. They are also prone to judge others by looking at the whole picture rather than one particular action or point in time (Dweck, 2000). Fixed mindset people, in contrast, are more apt to judge a person based on one action, whether that be a positive or negative one (Dweck, 2000). In addition, fixed mindset people see their social shortcomings as a lack of ability (Dweck, 2000).

The way students interact with one another creates an environment that is either hostile or supportive. Mindset affects people's perceptions of personality traits, not just their beliefs about intelligence. Consequently, mindset impacts the relationships students form with one another. Growth mindset individuals view personality traits as malleable (Carr, Dweck, & Pauker, 2012). Thus, prejudice is seen as a sentiment that can be changed. Students with a growth mindset are more apt to participate in interracial activities, thus creating a more inclusive environment for all students (Carr et al., 2012). In addition, interactions among racially diverse groups are impacted by the mindset of the individuals (Rattan & Georgeac, 2017). In a study involving college undergraduates, an increase in students' sense of belonging was related to an increase in student GPA (Kivlighan et al., 2018). Inclusivity creates a learning environment in which all students can feel supported in their learning. This support and sense of hope impacts their achievement (Kivlighan et al., 2018).

Peer relationships also form the context for individual behavior and goals (Carr et al., 2012; Lynch et al., 2013). Peer culture is associated with individual student GPA and self-reported student engagement (Lynch et al., 2013). Simply put, individual students behave in ways that are acceptable and expected in their social circle. The climate of a school sets the standard for socially acceptable behaviors and expected academic goals (Lynch et al., 2013). Climate creates the context in which students make individual decisions and set individual goals. Transformational leaders set the tone for student behavior by modelling a mindset that promotes growth and acceptance (Anderson, 2017; McCarley et al., 2016). While building leaders cannot force positive student relationships, especially among a diverse population, they can create an environment that is supportive to all students, as well as implement interventions to improve relationships among students in their buildings.

When needed, interventions to improve student-student relationships should be responsive to the needs of the students in the building (Berkowitz et al., 2017). Building leaders should recognize that supportive, caring peer relationships are crucial for individual achievement and success (Hopson & Lee, 2011; Lynch et al., 2013). Interventions to improve peer relationships in a building can relate to prejudice or bullying, as both are issues that relate to judgment of other individuals. Individual feelings of superiority fuel feelings of prejudice or acts of bullying (Dweck, 2006). Building leaders with a growth mindset believe that personality traits, as well as intelligence, are malleable. Consequently, growth mindset leaders will implement interventions to ameliorate these student beliefs if they see them impacting the peer relationships in the building. Focusing on the quality and type of interactions that

students experience will influence student-student relationships (Lynch et al., 2013). Improving these interactions will impact the school climate and improve individual student achievement.

**Teaching and learning.** The teaching and learning domain of school climate refers to educational processes and procedures that occur in order for students to learn. Civic, social, emotional, and academic learning, as well as the support for this learning, is included in this domain (Cohen & Geier, 2010). This domain has also been referred to as the academic domain (Wang & Degol, 2016). Building leadership impacts the academic domain in several ways. While this impact may be indirect, building leadership can influence student learning (McCarley et al., 2016; Williams, 2009). Principals impact student learning through curriculum selection and the interventions they support, their expectations for student achievement, their expectations for teachers, and the professional development they provide to faculty (El-Alayli & Baumgardner, 2003; Sebastian & Allensworth, 2012; Williams, 2009).

**Professional development.** Selecting professional development that impacts student achievement requires careful planning and sustained effort on the part of a building leader. Creating a shared vision and having clear goals for the building clarifies the direction of the building for teachers and students (Anderson, 2017; Wang & Degol, 2016). Principals with a clear vision can provide their teachers with the support and professional development necessary to reach their goals. Providing high quality professional development, responsive to teacher needs and supportive of the goals of the school, is one manner in which principals can affect the climate of the building (Sebastian & Allensworth, 2012). Teachers who work in a building where professional

learning is a priority report higher school climate ratings (Sebastian & Allensworth, 2012). Principals can provide the support necessary for teachers to continue to grow professionally by creating the structure to support continual learning. In addition to supporting continual learning, targeted professional development can influence teacher mindset in the classroom. A teacher's mindset can be influenced through professional development (Rattan, Savani, Chugh, & Dweck, 2015). Rattan et al. (2015) made the policy recommendation that principals and other school leaders incorporate mindset training into current initiatives. Neuroscience research suggests a relationship between growth mindset and motivation (Ng, 2018). This knowledge of how the brain works further encourages educators to provide instruction in mindset theory. The focus on mindset pedagogy can help teachers understand growth and fixed mindsets, encourage them to incorporate mindset learning into their classroom practices, and provide the research to support mindset interventions (Rattan et al., 2015). Providing mindset professional development will not only impact teaching but learning as well.

***High academic standards.*** Building leaders can also impact the teaching and learning domain of climate by setting high academic standards for students (Rheinschmidt & Mendoza-Denton, 2014; Sebastian & Allensworth, 2012). At-risk to gifted students benefit from high academic standards (Gutshall, 2013; Snyder, Malin, Dent, & Linnenbrink-Garcia, 2014). The building principal sets the tone for the communication of these standards and supports teachers in their methodology in the classroom to support the high standards. The promotion and communication of the school's academic standards must be led by the building principal who should incorporate the understanding of psychological processes into the work (Paunesku et al.,

2015). Providing information to teachers and encouraging them to foster a classroom environment that promotes growth, not just achievement, is one way principals communicate their high standards (Leondari & Gialamas, 2002).

In addition, motivation has been linked to growth mindset in neuroscience research (Ng, 2018). Growth mindset educators influence student learning in their classrooms. Principals should encourage teachers to set up a learning-oriented climate where the emphasis is on growth, effort, and learning, not just performance (El-Alayli & Baumgardner, 2003). Increased exposure to a growth mindset may ignite intrinsic motivation to learn new things (Ng, 2018). Pedagogy can convey teacher expectations, including low expectations (Rattan, Good, & Dweck, 2012). Teachers should be mindful of the practices that they employ within their classrooms in order to encourage student learning. Principals can model this behavior by creating the same professional learning environment within their buildings. They can set policies, such as grading policies, and processes, such as social-emotional interventions, in order to provide the framework for the growth mindset to flourish (Paunesku et al., 2015; Rattan et al., 2015). Building leaders are responsible for setting high academic standards and then providing the framework for effective instruction to ensure student success.

When students fail to achieve those standards, however, it is the responsibility of the building principal to support interventions that allow all students to succeed. The interventions that leaders choose to support and advocate for can have a positive influence on the teaching and learning that occurs in their building. First, the daily interventions that are implemented at a classroom level can help to mitigate future student failure. Students who have a growth mindset have better coping strategies within



the face of academic failure (Hong, Dweck, Chi-yue, Lin, & Wan, 1999). These students are more apt to seek remedial assistance when they struggle with content (Hong et al., 1999). In a study done with college undergraduates, increases in a sense of hope and belongingness were positively related to an increase in GPA (Kivlighan et al., 2018). Growth mindset encourages the sense of hope and belongingness in individuals. Teachers who foster a learning-oriented climate create a safe space for students to continue to work towards learning, rather than give up when they are unsuccessful (El-Alayli & Baumgardner, 2003). In a study done on 108 undergraduate students, self-handicapping behavior was noted by students who believed they were gifted in response to failure of an assigned task (Snyder et al., 2014). Self-handicapping is a coping strategy students employ to explain the reason for failure. Students who employ self-handicapping as a coping mechanism create a barrier to their success in order to avoid failure. The barrier becomes the reason for the failure, rather than a lack of ability (Snyder et al., 2014). Students who hold a growth mindset see failure as an avenue for further learning, and thus avoid self-handicapping behaviors because they do not believe that their self-worth is attached to their performance (Snyder et al., 2014).

When supporting interventions for struggling students, it is important for building leaders to be cognizant of the nature of a child's development. It has been shown that younger students tend to display more of a growth mindset than older students (Blackwell, Trzesniewski, & Dweck, 2007; Leondari & Gialamas, 2002). In addition, academic motivation, as well as achievement, declines in the adolescent years (Blackwell et al., 2007; Leondari & Gialamas, 2002). In recognizing this, elementary principals may choose to encourage building-wide interventions and methodology for classroom

teachers. They may also choose to work directly with parents as a study done with second grade students showed more reading growth in students with parents who had a growth mindset (Andersen & Nielsen, 2016). Middle school and high school principals may choose to utilize more targeted interventions to support select students who are struggling. In a study done by Paunesku et al. (2015), an individual, online mindset intervention was found to increase struggling students' GPA and improve their grades in core academic classes over a semester. Whatever the developmental level of the student, it is clear that building principals can influence the learning that occurs by selecting interventions that support a growth mindset. Transformational leaders recognize the importance of fully understanding the needs of their buildings through examining data, developing relationships, and clear communication to increase student achievement (Day et al., 2016).

*Expectations for teachers.* Finally, the teaching and learning domain of school climate can be influenced by the expectations principals have for their teachers. This aspect of teaching speaks to principals' modeling the behavior they expect to see teachers exhibit with their students. Transformational leaders motivate their teachers through modeling the desired behaviors while maintaining their expectations for all stakeholders (McCarley et al., 2016). Motivation, goal setting, coping strategies, and reaction to failure have all been attributed to student success in the academic domain (El-Alayli & Baumgardner, 2003; Hong et al., 1999; Paunesku et al., 2015; Rattan et al., 2012).

Mindset and motivation interact to produce results (El-Alayli & Baumgardner, 2003). A teacher's pedagogical practices can influence student motivation, even communicate low expectations to students if the teacher holds a fixed mindset (Paunesku

et al., 2015; Rattan et al., 2012). Consoling students after failure may have a negative effect on student achievement, as it may convey to students that the teacher does not believe the student is capable of being successful (Rattan et al., 2012). Students' reaction to this failure has been linked to their mindset (Blackwell et al., 2007; El-Alayli & Baumgardner, 2003; Hong et al., 1999). Fixed mindset students are more likely to exhibit maladaptive reactions to failure, such as self-handicapping, defensiveness, or helplessness (Blackwell et al., 2007; El-Alayli & Baumgardner, 2003; Hong et al., 1999). These maladaptive behaviors impede the learning of students.

Finally, goal setting is influenced by mindset. Dweck posited that students with a growth mindset tend to set learning goals rather than performance goals. Learning goals favor growth and mastery, whereas performance goals favor achievement and ability (Dweck, 2006). While the studies detailed in this section deal with students, from elementary school to college, it is clear that the results can be generalized to adult behaviors within the school context. A building leader with a growth mindset will increase teacher motivation, encourage risk taking among staff, and set goals for learning and growth. Teachers who experience these expectations will likely impart the same expectations for the students in their classrooms.

Building leaders, especially those in high schools, may not have the ability or the background knowledge to provide content specific support to teachers (Sebastian & Allensworth, 2012). However, building leaders can work to create an academic environment that encourages a growth mindset approach to teaching and learning.

**Environment.** School and home are two different systems (O'Malley et al., 2015). It is difficult, if not impossible, for educators to control what happens in a

student's home environment. Therefore, it is incumbent on the building leader to create a school environment that is conducive to student learning and achievement. The school environment is defined as the physical surroundings of the school (Cohen & Geier, 2010). The home environment contains variables such as family structure, socio-economic status, and living conditions. Any of these variables can become a risk factor for student learning. Schools can mediate home-related risks (Claro et al., 2016; O'Malley et al., 2015; Zhao, 2016). A building leader can create a school environment that supports student learning and increases achievement despite home environment risk factors by promoting a growth mindset. Despite socio-economic status, a growth mindset is a strong indicator of student achievement and is a mediating factor against the effects of poverty on achievement (Claro et al., 2016). In addition, teaching a growth mindset increases resiliency in students and is related to intrinsic motivation (Ng, 2018; Yeager & Dweck, 2012). Finally, parent intelligence mindsets are not always visible to children (Haimovitz & Dweck, 2016a). This means that parental mindsets do not automatically transfer to students, and sometimes it is necessary for schools to intervene to provide instruction on mindset. This knowledge supports the belief that school environment is critical to student achievement.

***School environment and leadership.*** Building leaders must create an environment that encourages growth and learning. Leaders must actively work to frame the environment of their buildings (Kelley et al., 2005; Winterman, 2008). This effort must include a vision and mission that is specific to the needs of the stakeholders in their building (Kelley et al., 2005; Sahin, 2011; Winterman, 2008). The development of this site-based plan should be done with a team of invested stakeholders including teachers,

parents, and students (McCarley et al., 2016; Winterman, 2008). Creating a shared vision and clearly communicating it is a central component of transformational leadership (Anderson, 2017; McCarley et al., 2016). Building principals with a growth mindset will approach this task with learning and development as the primary factors. They will set the tone with teachers, parents, and students that growth and movement towards the goals are as important as the achievement of the goals themselves. Growth mindset does not mean being open-minded (Dweck, 2017). Instead, growth mindset can be seen in the motivation of teachers and students, the goals they set, and how they react to challenging tasks. Neuroscience research has shown a relationship between motivation and growth mindset in the brain (Ng, 2018). Principals with a growth mindset will model this behavior with teachers in the environment they create within their buildings.

Building leaders with a growth mindset can positively influence the climate of their buildings. Specific leadership behaviors can be targeted to improve school climate (McCollum & Kajs, 2009). These behaviors, which are characteristic of transformational leaders, include engaging in shared leadership, setting mastery goals, and working to improve self-efficacy among teachers. These behaviors impact teacher engagement which impacts the school environment, and ultimately student learning (Leroy et al., 2007; McCarley et al., 2016; McCollum & Kajs, 2009).

Transformational leadership is the style by which a leader engages the stakeholders in an organization to maximum achievement (Anderson, 2017; McCarley et al., 2016). A building leader must establish a school climate that is conducive to change (McCarley et al., 2016). Transformational leadership promotes shared decision making and teacher engagement. Building principals who employ shared leadership in their

buildings promote their beliefs that teachers are critical to the development of building goals and progress. There is a positive correlation between teacher engagement and supportive principal behavior (McCarley et al., 2016). A principal who has a more directive approach to leadership tends to be less supportive of teacher risk taking and more restrictive of teacher autonomy (McCarley et al., 2016). A principal with a more directive approach, rather than shared approach, has a negative impact on school climate. High external pressure, such as that which comes from a principal who favors a directive style, impacts teachers' feelings of self-efficacy (Leroy et al., 2007). In addition, teachers who feel that their work is more closely monitored tend to be more controlling with the students in their classrooms (Leroy et al., 2007). A building leader with a growth mindset encourages teachers to participate in the decision-making process as the growth of the organization is crucial to the organization's success. This participation will lead to the formation of the goals for the building in which everyone has a vested interest.

The formation of building goals is deeply impacted by building leaders' mindset. Building leaders with a growth mindset select more challenging goals for themselves (McCollum & Kajs, 2009). However, the growth mindset also impacts the support of the building goals selected by the shared leadership team. A school environment that focuses on mastery goals focuses on learning and growth. Performance is not the ultimate determinant of success. Creating an adaptive learning environment is tied to growth mindset (Dinger & Dickhauser, 2013). The belief that intelligence is malleable influences the pursuit of mastery-oriented goals. Mastery-oriented goals focus on the learning and the process involved in acquiring new knowledge (Dinger & Dickhauser, 2013). Fixed mindset people tend to pursue performance goals that indicate one's

achievement in relationship to others' achievement. Fixed mindset individuals are convinced they don't have what it takes to be successful in challenging situations (Robins & Pals, 2002). It is the responsibility of the building leader to promote mastery-oriented goals so that all students and teachers can feel successful. Principals with a growth mindset are cognizant of the goal orientation of the building goals and understand that these goals set the tone for the environment for learning.

High academic achievement is difficult to attain without a positive school environment (Day et al., 2016; Kelley et al., 2005). Deficit driven education focuses on what students cannot do or what students are lacking (Zhao, 2016). Building leaders can work to create a school environment that encourages learning and growth in all students, despite their home environments. Leaders with a growth mindset can influence the leadership structure of the building, the goals set by the leadership team, and the environment that teachers create in their classrooms.

***Facets of the school environment.*** The school environment can be viewed through multiple lenses. The first lens is the school-wide environment. Thus far, it has been discussed how a building leader with a growth mindset can influence the school-wide environment to promote student learning and success. In a discussion of school environment, however, it would be remiss not to acknowledge the impact classroom environment has on student learning. The classroom environment is a component of the environment that affects school climate (Cohen & Geier, 2010). Classroom environment affects student motivation, goal orientation, and resilience (McCollum & Kajs, 2009; Robins & Pals, 2002; Tapola & Niemivirta, 2008). Teachers with a growth mindset will influence student behavior in their classrooms. Communication, whether overt or covert,

from teachers can affect a student's mindset (Yeager & Dweck, 2012). Building leaders need to encourage teachers to focus on learning so that a growth mindset can be fostered in their students.

Classroom environment affects goal orientations (Robins & Pals, 2002; Tapola & Niemivirta, 2008). Teachers who encourage and foster a growth mindset can impact the goal orientation of their students. The goal orientation of the teacher influences the goal orientation of students (McCollum & Kajs, 2009). Thus, teachers that model a growth mindset with mastery-oriented goals will influence the goals that students in their classrooms choose to pursue. Mindset influences the personal best goals that students set for themselves (Martin, 2015). Personal best goals are growth goals and tend to focus more on improving skills and gaining knowledge for the future in incremental steps (Martin, 2015; Sevincer, Kluge, & Oettingen, 2014). A building leader promotes mastery goal orientation with staff and, in turn, expects teachers to promote those types of goals within their classrooms.

The classroom learning environment also influences student motivation (Leroy et al., 2007). Students prefer a learning environment that focuses on learning rather than evaluation (Tapola & Niemivirta, 2008). Teachers with a growth mindset favor learning over performance. Mindset tends to be a stable psychological process and, thus, does not change with situational variables (Gutshall, 2013). Teachers who have a growth mindset tend to believe in the ability of their students, regardless of disability or gender (Gutshall, 2013). Students in a supportive classroom environment that encourages learning and growth show stronger motivation to work towards mastery goals because they understand that the learning and the process they are involved in are just as important as the end



result (Tapola & Niemivirta, 2008). Neuroscience research conducted on brain function that shows a relationship between growth mindset and motivation supports the research that has been done in classrooms (Ng, 2018).

Conversely, motivation can be influenced by the failure mindset of adults (Haimovitz & Dweck, 2016a). In a study done by Haimovitz and Dweck (2016a), failure mindset is defined as a view of failure as debilitating and indicative of child's lack of ability. A failure mindset communicates to children that they do not have the intelligence or ability to be successful. While this study was conducted with parents and their children, it has implications for educators. Teachers who have a failure mindset impact student motivation by covertly communicating their belief that the child cannot be successful. This communication, although not overt in nature, influences a student's motivation to persevere in the face of challenging situations. Teachers can support an autonomy environment that supports internal motivation and resiliency or a controlling environment that favors external pressure to force students to behave in certain ways (Leroy et al., 2007). Building leaders should encourage growth mindset in their teachers so that a positive environment for learning and growth is established for all students.

***School environment and school engagement.*** It is crucial to understand the role that school engagement plays in student learning. School engagement is a student's relationship to school. It is how students think, feel, and behave when they interact with the school environment (Chase, Hilliard, Geldolf, Warren, & Lerner, 2014). Behavior encompasses study skills and effort in academic tasks (Chase et al., 2014). Younger students tend to show higher rates of school engagement. However, as students move into adolescence, school engagement begins to decline (Schmidt, Shumow, Kacker-Cam,

2017; Yeager et al., 2016). Schools must create environments that encourage continued engagement in order to support student learning. Systems of Positive Behavior Intervention Supports (PBIS) are current efforts that schools employ in order to encourage higher rates of student engagement (Zullig et al., 2011). However, there are other methods that building leaders can implement and promote that can help increase student engagement as students get older. Students who are more engaged in school report higher school satisfaction (Zullig et al., 2011). School satisfaction is an opinion of the overall quality of life at school. These feelings of satisfaction at school are related to students' grades, feelings of safety, and the graduation rate (Zullig et al., 2011). Understanding how students think and feel about the school environment is critical to understanding their feelings about school satisfaction. Transformational leadership has been associated with higher teacher engagement (Anderson, 2017; McCarley et al., 2016). Building leaders that employ a transformational leadership style model the behaviors related to encouraging engagement that teachers should emulate with students.

*School environment and closing the achievement gap.* Zhao (2016) discusses the current state of education as a deficit driven system. In a deficit driven system of education, educators focus on skills the student is missing and strive to remediate those skills, rather than build on the strengths the student has (Zhao, 2016). Cultivating student strengths is one way educators can impact the achievement gap that exists in the educational system (Zhao, 2016). At a young age, students' psychological processes can be developed and encouraged to impact their learning. School leaders can create an environment that supports the development of psychological processes and, in turn, promotes a positive school climate (Claro et al., 2016; Froelich et al., 2016; O'Malley et

al., 2015; Yeager & Dweck, 2012). Psychological processes of students include their thoughts and beliefs about intelligence, self-esteem, personal attributes, motivation, and goal setting. These processes all influence student learning. Mindset is a psychological process that can influence learning and achievement.

Positive school climate has a direct relationship to a variety of achievement factors. Students who report a positive school climate report higher GPAs (O'Malley et al., 2015). In addition, the school climate variable of connectedness (also explained as engagement) is important for school satisfaction as reported by students (Zullig et al., 2011). A building leader must create an environment that promotes a growth mindset in both teachers and students in order to create an environment that encourages maximum student learning and achievement. Principals with a growth mindset set the tone for their teachers as well as the overall tone for learning for students within their building.

**Safety.** Feelings of safety and security are a basic need sought by all individuals (Cohen & Geier, 2010). In order to maximize student achievement, building leaders must make a conscious effort to enhance feelings of safety, both for students and for teachers. Principals must devote time and energy to creating an environment that promotes order and discipline so that teachers can focus on teaching and students can focus on learning (Williams, 2009). Multiple studies show the relationship between student achievement and feelings of safety and security while in school. In schools where students report high levels of hostility, lower average engagement is reported as well as lower reading achievement (Ripski & Gregory, 2009). In addition, reports of high classroom disorder predicted lower achievement in suburban schools (Sulak, 2016). Finally, high academic achievement has been linked to lower feelings of victimization and improved climate

(Benbenishty, Astor, Roziner, & Wrabel, 2016). As safety is a component of school climate, building principals can enact policies and procedures that promote feelings of safety and security within their buildings that is conducive to student achievement. A building principal with a growth mindset supports students and teachers in very specific ways to encourage a safe environment.

***Safety and victimization.*** Feelings of victimization contribute to students' concerns about school safety and security. Student victimization is predictive of student engagement in school, and student engagement is a critical piece of climate and student success (Ripski & Gregory, 2009; Zullig et al., 2011). A building leader must work diligently to foster positive peer relationships to reduce peer victimization and increase feelings of safety at school. Growth mindset individuals view personal attributes as malleable (Yeager & Dweck, 2012). Students with a growth mindset show lower aggression and stress as it relates to peer victimization (Yeager & Dweck, 2012). Encouraging positive peer relationships can reduce bullying and peer victimization. Typically, bullying occurs because of differences between students (Cohen & Geier, 2010). These differences can be related to race, gender, sexual orientation, disability, or socio-economic status (Cohen & Geier, 2010). A building principal that has a growth mindset and fosters that mindset in teachers and students can increase students' feelings of safety while they are at school.

***Safety and behavior.*** Misconduct, and the ensuing discipline, is also a component of school safety. Perceptions of disorder in schools negatively impacts students' social and academic experiences at school (Peguero & Bracy, 2014). In addition, an excess of disciplinary issues is characteristic of a negative school climate

(Sulak, 2016). The number of reported discipline incidents has a strong relationship to student achievement and social adjustment (Brand, Felner, Seitsinger, Burns, & Bolton, 2008; Williams, 2009). In order to feel a sense of security while at school, students must perceive that the rules and subsequent disciplinary practices are distributed fairly. This sense of fairness is a critical piece of school climate (Peguero & Bracy, 2014). In order to promote fairness and equality for all students, building leaders must promote understanding of the differences in student beliefs and backgrounds. Students who believe that they are treated unfairly report being less engaged in school (Ripski & Gregory, 2009). Principals with a growth mindset believe that incremental change can occur with regards to people's stereotyping behavior (Dweck, 2006). In order to cultivate feelings of safety and security at school, growth mindset leaders implement programs and training that promote diversity and equity among students.

*Safety and professional development.* Finally, building leaders can impact feelings of safety and security at school through the professional development they provide to teachers and the expectations they have for teachers in their classrooms. Professional development for teachers should focus on mindset interventions that increase the understanding of growth mindset and its impact on student achievement. Recommended in a study by Benbenishty et al. (2016), professional development on bullying and victimization should be directed towards teachers. In many schools, students report higher levels of bullying and victimization than teachers report (Cohen & Geier, 2010). This discrepancy is notable because it indicates that teachers are not always aware of student experiences in school. Professional development devoted to bullying and victimization provides information to teachers about their own biases and

discriminatory practices, thus improving their awareness of what students are experiencing (Benbenishty et al., 2016). Building leaders understand that professional development targeted at moving teachers towards understanding and identifying bullying and victimizing behaviors will improve the feelings of safety for students. Leaders with a growth mindset believe that this type of professional development will be effective because they believe in people's ability to change and grow.

*Safety and expectations.* Principals can also influence feelings of safety and security for students by setting high standards for learning and expecting teachers to have the same standards within their classrooms. Teacher expectations of students impact students' behavior (Demaneet & Van Houtte, 2012). Lower teacher expectations for learning have been linked to increases in misbehavior. Teachers spend less time with these students because they do not perceive them as having the capability to grasp the concepts being taught. This lack of attention causes oppositional behavior from students (Demaneet & Van Houtte, 2012). Oppositional behavior and other forms of misconduct result in disciplinary action. High rates of disciplinary incidents are related to negative school climate (Sulak, 2016). Fixed mindset teachers believe intelligence is a finite characteristic. However, growth mindset teachers view intelligence as malleable and encourage continual learning from students regardless of their initial achievement. Building leaders who have a growth mindset set high standards for student learning and achievement and expect their teachers to do the same in their classrooms. Transformational leaders believe in setting high expectations for all students and providing the support so students can be successful in achieving those goals (Day et al., 2016).

The safety component of school climate is multi-faceted. Disciplinary incidents, feelings of victimization, and teacher expectations all impact student perceptions of safety at school. A building leader with a growth mindset can impact student perceptions by providing targeted professional development to teachers, promoting inclusive practices within the building and among students, and setting high standards for learning for all students in the building.

### **Summary**

Examining the relationship between a building leader's mindset and the climate in the building requires an understanding of the constructs that interact in this relationship. Leaders with a growth mindset believe that people have the ability to grow and change (Dweck, 2006). Transformational leaders strive to motivate and inspire their followers to continually achieve and perform at higher levels (Anderson, 2017). These leaders must believe that growth is possible in order to lead in this manner. Transformational leadership has been identified as the preferred leadership style for 21<sup>st</sup> century schools (Anderson, 2017).

Leadership influences school climate. Positive school climate has been linked to higher student engagement, higher student achievement, and higher teacher satisfaction (Hopson & Lee, 2011; Kelley et al., 2005; Leroy et al., 2007; McCarley et al., 2014; McCollum & Kajs, 2009; O'Malley et al., 2015; Ripski & Gregory, 2009; Zullig et al., 2011). There is an interdependent relationship between mindset, leadership, and school climate. Understanding building leaders' mindset will support future research that may examine the relationship between mindset, leadership, and school climate. There may be implications for the hiring and placement of building leaders. In addition, leadership

preparation programs and ongoing professional development could be impacted. This study sought to fill the gap in the research related to mindset theory and leadership.



## CHAPTER III

### METHODOLOGY

The purpose of this study was to quantitatively document building principals' growth and fixed mindset and describe the differences between the mindsets based on gender, level of education, experience, community type, building level, and building size. Much research has been done with regards to mindset, but most of this research has focused on students. This study sought to contribute to the body of research regarding the leadership style and the mindset of school principals.

Methodology is defined as the mechanisms one utilizes to try to understand the world better (Trochim & Donnelly, 2008). In research, methodology seeks to specifically explain the practice that the study will employ. Questions, design, participants, instruments, procedures, and data analysis are components of the methodology of a research study. This study was a descriptive study that utilized a web-based survey for data collection. Descriptive studies describe a given situation or state of affairs (Fraenkel et al., 2012). This study sought to document the growth or fixed mindset of building principals. The population was principals in Ohio, and the target population was drawn from public school buildings in 10 counties in the northeast region of Ohio. Principals were administered an online questionnaire consisting of eight items to ascertain their growth or fixed mindset. The instrument utilized was the *Theories of Intelligence (Others Form)* created by Carol Dweck and her colleagues (Dweck, 2000). The data collected through the online survey were transferred to the SPSS program for analysis. Results and implications for future research are discussed.

This Methodology chapter sought to explain the research questions, research design, participants, instrumentation, procedures, and data analysis of this quantitative study.

### **Research Questions**

1. Do building principals have a growth or fixed mindset?
2. Does the mindset of building principals differ based on the principal's gender, level of education, experience, community type, building level, or building size?

### **Research Design**

“Research design is the glue that holds the research project together” (Trochim & Donnelly, 2008, p. 158). This study sought to determine a building principal's mindset type. In addition, the study documented building principal's mindset and how it differs by gender, level of education, experience, community type, building level, and building size. This study was a quantitative, non-experimental survey study. Non-experimental research is important in education because it can be difficult to do true experimental research in situations that present themselves in the field of education (Johnson, 2001). Many educational and social scientific phenomena do not lend themselves to true experimental examination, but these phenomena do invite investigation and research (Johnson, 2001). In these situations, it is necessary to employ a different design approach to describe the phenomena that is occurring. Non-experimental design is utilized when the researcher is describing attributes that cannot be manipulated, such as gender, experience, or ethnicity. Another circumstance in which non-experimental design is utilized is when it would be unethical to manipulate the treatment conditions of the

research subjects, such as investigating the effects of a treatment for smokers (Belli, 2008). Non-experimental research is important in education as there are many non-manipulable variables that need further study (Johnson, 2001). In this study, the variable measured was principal mindset. This study was non-experimental because the variable, principal mindset, was studied as it existed and could not be manipulated by the researcher (Belli, 2008). In addition, Johnson (2001) suggested that non-experimental research is important as foundation for future experimental studies. This study provided a basis for future research in the field of growth and fixed mindset.

With regards to purpose, non-experimental design can be classified into categories of descriptive, predictive, and explanatory research (Belli, 2008; Johnson, 2001). Descriptive research seeks to describe or document the characteristics of a phenomenon. Predictive research seeks to predict a variable of interest (typically called the criterion) using information from other variables (called predictors). Explanatory research seeks to explain how a phenomenon works or why it operates (Belli, 2008; Johnson, 2001). As this study sought to describe the mindset of building principals and document the mindset in relationship to various principal attributes, it was a descriptive study.

The fundamental purpose of descriptive research is to describe what is occurring or to describe what exists (Trochim & Donnelly, 2008). Descriptive research describes an individual, a group, or a situation. Essentially, descriptive research seeks to describe the characteristics and functions of the individual, group, or situation (Trochim & Donnelly, 2008). In order to determine if non-experimental research can be classified as descriptive, Johnson (2001) recommended the researcher answer two questions: Are the

researchers primarily describing the phenomenon? And Are the researchers documenting the characteristics of the phenomenon? If the answers are yes to these questions, and no manipulation of variables occurred, then the non-experimental research should be classified as descriptive. In this study, the researcher documented the growth or fixed mindset of building principals. In addition, characteristics of the participants were also documented as they related to the mindset type of the building principals. The variable, mindset type, was not manipulated but documented as it existed.

In educational research, the most common type of descriptive research is the survey study (Fraenkel et al., 2012). The primary function of survey research is to describe the attributes of a defined population (Fraenkel et al., 2012). In survey research, the researcher documents how the participants disperse themselves over one or more variables (Fraenkel et al., 2012). In this study, the researcher sought to document the growth or fixed mindset of the participants and describe characteristics, such as gender, level of education, experience, community type, building level, or building size associated with each mindset. The researcher's purpose in this study was to describe the distribution of the characteristics across the population, not explain why the distribution exists. The survey design was appropriate for the purpose of this study.

Non-experimental research is needed to document current phenomena or to ascertain the need for future research (Belli, 2008). Current practice recommends that non-experimental research be categorized through the two-dimensional approach of purpose and time frame (Belli, 2008; Fraenkel et al., 2012; Johnson, 2001). This study was a descriptive, cross-sectional survey that documented the growth or fixed mindset of building principals and described the characteristics of gender, level of education,

experience, community type, building level, and building size with regards to the documented mindset.

There are inherent threats to the validity of survey research design. Survey research typically has four main threats to validity: mortality, instrument decay, instrument, and location (Fraenkel et al., 2012). Mortality and instrument decay were not a concern in this study. Mortality threats occur in longitudinal studies where there is a concern that participants will drop out of the study for whatever reason (Fraenkel et al., 2012). Instrument decay occurs when an interview takes place, and the interviewer may become tired or biased before the study is complete (Fraenkel et al., 2012). There may be an instrument threat to the design. However, the questionnaire used in the study, the *Theories of Intelligence Scale (Others Form)*, has shown to be valid and reliable. In addition, there may be a location threat to the validity of the study. A location threat occurs if the data are collected in a place that can affect responses (Fraenkel et al., 2012). The administration of the online survey aided in alleviating concerns with location threat because the principals were able to complete the survey at any time and in any location that was convenient for them. Finally, there may be a threat to the external validity of the study related. However, the study utilized a non-random, purposive sampling method to increase the generalizability of the study. According to Trochim & Donnelly (2008), the theory of proximal similarity allows for greater generalizability of a study if the target population is clearly defined. The target population for this study is head principals in public school buildings in Ohio.

## Participants

The sample population for this study was school buildings in the sampling frame of public school districts in Ohio. There are 612 individual public school systems in Ohio per the Ohio Department of Education's Ohio Educational Directory System (ODE, 2016). These public school systems contain 3,206 public schools that serve the families and children of Ohio. In order to select participants for the target population, non-random, purposive sampling was utilized. For the purpose of this study, participants were defined as principals in individual school buildings. All principals in Lake, Geauga, Cuyahoga, Ashtabula, Portage, Trumbull, Medina, Lorain, Stark, and Summit counties in northeast Ohio were contacted to participate in the study, with the exception of one district in the area due to the researcher's employment with the district and relationship with district employees. As the study sought to ascertain building principals' mindset, *The Theories of Intelligence Scale (Others Form)* was administered only to head principals in the target population. Assistant and associate principals, where applicable, were not included in the sample population. Thus, each building was considered as one participant.

When utilizing a survey design method, response rate is crucial to the validity of the study. According to Baruch and Holtom (2008), increased response rates will lead to an increase in the likelihood of the sample being representative of the population. According to Fowler's Sample Size table, 506 participants were needed at a 95% confidence interval with a 4% error rate (1988). In order to achieve, at minimum, a 60% response rate from schools and maintain the 506 participant threshold, it was necessary to increase the sample size to approximately 844 schools. Within these districts in northeast

Ohio, there are 855 individual school buildings. Eight of the buildings were excluded from the overall total of 855 because of their relationship to the researcher, which brought the number of surveys sent to principals to 847. The target population was raised to 847 building principals to ensure the 60% response rate to maintain external validity and to protect the number of participants at 506 to maintain internal validity. Ohio contains a wide variety of school districts that vary greatly in their demographics. Urban, suburban, and rural schools exist throughout the state. In addition, the state contains large and small schools, as well as a variety of diverse student populations. The purposeful selection of these 10 counties in northeast Ohio provides a sample of a variety of school types and sizes. Demographic questions were included in the survey so that the results could be delineated according to various demographic characteristics to aid in the generalizability of the study.

### **Instrumentation**

Survey research can be conducted through interviews or questionnaires. Typically, questionnaires are completed by the participants. Interviews, on the other hand, are completed by the interviewer based on the responses of the participant (Trochim & Donnelly, 2008). A questionnaire was utilized in this study, as the participants were spread across the state of Ohio and individual interviews were prohibitive. The *Theories of Intelligence Scale (Others Form)* (Appendix A) was administered to determine the growth or fixed mindset of building principals that participated in the study. Demographic questions (Appendix B) were added by the researcher to *The Theories of Intelligence Scale (Others Form)* to aid in generalizability of the study. Other scales exist to measure a person's implicit theories (Dweck, 2000).

Additional domain specific scales measure personality, morality, and world-views. One domain general scale exists that measures implicit theories about the *kind of person*. The *Theories of Intelligence Scale (Others Form)* was selected for this study because it focuses on the domain specific area of intelligence. This study sought to document a building principal's growth or fixed mindset specifically on intelligence. Student achievement and success are tied to the climate of the building. Building leaders can influence the climate of the building through their actions and decisions. Building leadership helps to form the climate of a school building. Documenting the intelligence mindset of building principals and describing the factors that relate to each of the mindsets will provide a basis for future research and investigation.

It is necessary to review the instrument in survey research in order to address concerns about the validity and reliability of the instrument. The historical use of the survey, the manner in which it operationalizes the constructs, and the development of the scoring process all pose concerns for the validity of the instrument. The *Theories of Intelligence Scale (Others Form)* has been proven to be a valid and reliable instrument. The historical use of the survey involved developing the eight-item scale that is currently used by researchers. The operationalization of the constructs was confirmed by a factor analysis. Finally, the scoring process for the instrument was developed as the eight-item scale was developed. The processes for validating the instrument are described in the following sections.

### **Development of the Eight-Item Scale**

The questionnaire that was utilized was Carol Dweck's *Theories of Intelligences Scale (Others Form)*. The *Theories of Intelligences Scale (Others Form)* can be found in



Appendix A. This questionnaire has multiple forms, and this form, *Theories of Intelligences Scale (Others Form)*, was designed to be used with adults who are making judgments about other people. This questionnaire is most appropriate for adults because it contains both the entity and incremental statements (Dweck, 2000). According to Dweck (2000), young children can become confused by the mixture of entity and incremental items. In addition, the *Theories of Intelligences Scale (Others Form)* is appropriate when asking for theories about people in general, not reporting theories about themselves (Dweck, 2000). The questionnaire is domain specific in that it makes statements related only to intelligence. The questionnaire contains eight items designed to determine an individual's implicit beliefs about other people's intelligence (Dweck, 2000). Four statements relate to incremental theory, and four statements relate to entity theory. People with an incremental theory view of intelligence are said to have a growth mindset. People with an entity theory view of intelligence are said to have a fixed mindset. The items on the questionnaire related to incremental theory and growth mindset are:

3. No matter who you are, you can significantly change your intelligence level.
5. You can always substantially change how intelligent you are.
7. No matter how much intelligence you have, you can always change it quite a bit.
8. You can change even your basic intelligence level considerably.

The items related to entity theory and fixed mindset are:

1. You have a certain amount of intelligence, and you can't really do much to change it.

2. Your intelligence is something about you that you can't change very much.
4. To be honest, you can't really change how intelligent you are.
6. You can learn new things, but you can't really change your basic intelligence.

The quality of the measurement instrument used is of the utmost importance because the researcher is drawing conclusions and making determinations based on the instrument (Fraenkel et al., 2012). It is important that a research instrument be valid and reliable. Validity refers to how appropriate, useful, and meaningful an instrument is. Consistency of scores between administrations and between items constitute the reliability of an instrument.

### **Reliability**

Initial administrations of the scale showed that incremental items were highly compelling to respondents and drew excessively high response rates, so only three items pertaining to entity theory were included in the early use of the scale (Dweck, 2000; Dweck et al., 1995). Dweck et al.'s 1995 study showed the high internal reliability of the implicit entity theory measures;  $\alpha$  ranged from .94 to .98 for the implicit theory of intelligence scale (Dweck et al., 1995). In addition, over a 14-day interval, the test-retest reliability was .80 for the theory of intelligence scale. The results of this study showed a high reliability for the three entity items included on the instrument. In 1997, Levy and Dweck developed an eight-item scale to further delineate and document a person's incremental or entity theory. This eight-item scale, utilized in a study performed by Levy, Stroessner, and Dweck, showed that reliability across the eight items was high,  $\alpha = .93$  (Levy et al., 1998). Across both studies, the classification of participants as entity, incremental, or unclassified was similar (Levy et al., 1998). In each study, one utilizing

the three-item scale and one utilizing the eight-item scale, approximately 40- 45% of participants fell into the entity group, 40-45% fell into the incremental group, and 10-15% were identified as unclassified. Unclassified participants scored in a range that did not indicate a well-defined or consistent implicit theory (Levy et al., 1998).

### **Validity**

According to Fraenkel et al. (2012), it is not the instrument itself that must be validated, but the use of the instrument. The original implicit theory scale contained items that pertained only to entity theory (Dweck et al., 1995). In this study, Dweck et al. (1995) showed the construct validity of the instrument through a factor analysis.

Construct validity refers to whether or not the instrument accurately measures the constructs operationalized by the researcher (Trochim & Donnelly, 2008). Construct validity assesses the degree to which an instrument measures what it is intended to measure for its intended purpose. Dweck and her colleagues' findings confirmed that support of the implicit theory items did not represent an acquiescence set, and implicit theories about diverse human characteristics were statistically independent of one another (Dweck et al., 1995).

However, there were still some concerns about the validity of the scale. In 1997, Levy and Dweck attempted to address some of the concerns associated with the original three-item scale. Content validity addresses the need to check the operationalization of the construct with the pertinent content domain (Trochim & Donnelly, 2008). In other words, content validity addresses the alignment between test items and the content or subject area they are intended to assess. One concern with the original scale was that the items only depicted entity theory beliefs, and there was no assurance that disagreement

with these statements meant agreement with incremental statements (Levy et al., 1998). In addition, there was also concern with the original three-item scale in that incremental items were not included because participants tended to universally endorse them (Levy et al., 1998). In 1997, Levy and Dweck developed the eight-item instrument which contained strongly worded incremental measures. Five validation studies were conducted using this eight-item instrument. These validation studies showed a correlation between -.69 to -.86 between the original entity items and new incremental items, indicating that disagreement with entity items represented an agreement with incremental items (Levy et al., 1998). In addition, responses to the three-item and eight-item measures in two validation studies were correlated between .83 and .92 (Levy et al., 1998). The incremental items show a high negative correlation with the entity items that are included (Dweck, 2000). These studies showed that utilizing the eight-item instrument was as valid as the three-item instrument. The *Theories of Intelligence Scale (Others Form)* has shown to be valid and reliable (Dweck et al., 1995; Levy et al., 1998).

In certain situations, the entity-only scale is still the preferred measure. When completing longitudinal studies or studies that require repeated administrations of the scale, it has been noted that there is a risk that participants will drift towards incremental items. In addition, in studies involving grade school children, confusion between the entity and incremental items has been noted (Dweck, 2000). In this study, it was appropriate to utilize the eight-item scale, as this was a cross-sectional study involving adult participants.

## Use of the Instrument in Current Research

There are several versions of this scale that exist to assess a person's implicit theories of the world around them. A person has implicit theories about various human characteristics, such as intelligence, morality, and personality (Dweck, 2000). The *Theories of Intelligence Scale* has been modified and adapted for use in many studies since its inception in 1995. While the eight item *Theories of Intelligence Scale (Others Form)* was selected for use in this study, much research has been done utilizing the basic tenets of the original instrument.

The instrument has been used by many researchers to gauge participants' views about intelligence. Several studies on theories of intelligence utilized the three-item scale originally developed by Dweck and her colleagues in 1995 (Claro et al., 2016; Dweck et al., 1995; Ying-yi, Dweck, Chi-yue, Lin, & Wan, 1999). The instrument was used in other studies as a four-item scale, but it continued to measure only entity-related items (Leondari & Gialamas, 2002; Mangels, Butterfield, Lamb, Good, & Dweck, 2006). In studies that utilized the three- and four-item scales, school age children were typically the participants. The selection and use of the modified instrument are consistent with Dweck's observations and recommendation that the entity only items be used with school children because they tend to be confused by the mixture of entity and incremental items (Dweck, 2000). In addition, there were studies that further modified the scale, using only a two-item questionnaire. These studies, although measuring intelligence, were using the instrument as only a piece of what was being measured (Bahnik & Vranka, 2017; Paunesku et al., 2015). Finally, the eight-item scale has been used in studies measuring

intelligence with adults as the participants (Ehrlinger, Mitchum, & Dweck, 2016; Shapcott, Davis, & Hanson, 2018).

The *Theories of Intelligence* scale is not the only scale that measures implicit beliefs. Several studies have utilized an adapted scale to measure implicit beliefs about personality. The *Implicit Theories of Personality* scale asks the same basic questions but inserts personality in place of intelligence in the questions. Thus, a question might read “People can’t really change what kind of personality they have. Some people have a good personality and some don’t and they can’t change much” (Dweck, 2000). The eight-item scale has been used with undergraduates to ascertain their beliefs about social class and academic achievement (Rheinschmidt & Mendoza-Denton, 2014). Much like the studies that utilized the *Theories of Intelligence Scale* with school age children, researchers also used a modified version of the *Implicit Theories of Personality* when conducting research with young children (Erdley, Cain, Loomis, Dumas-Hines, & Dweck, 1997; Erdley & Dweck, 1993; Yeager et al., 2014). Once again, the modified version of the scale used with school-age children contained only entity-related items. A two-item scale measuring personality was also used in a study with undergraduate students. This study was measuring personality as a piece of a larger study of college-age students (El-Alayli & Baumgardner, 2003).

Finally, the scale measuring implicit beliefs has been adapted to measure implicit beliefs about very specific topics. Some of these topics measured implicit beliefs related to intelligence, such as math ability (Rattan et al., 2012). However, some of the adapted scales measured implicit beliefs about topics unrelated to intelligence, such as weight (Burnette, Hoyt, Dweck, & Auster-Gussman, 2017) or prejudice (Carr et al., 2012).

These studies held true to Dweck's recommendations (2000) and used a modified, entity only questionnaire when school-age children were the participants (Rattan et al., 2012). However, when adults were the participants, a six- or eight-item scale was utilized with participants (Burnette et al., 2017; Carr et al., 2012).

### **Scoring**

On the *Theories of Intelligence Scale (Others Form)*, respondents are asked to rate their agreement with each of the eight items on a scale of 1 (*strongly agree*) to 6 (*strongly disagree*). Items on the questionnaire include statements such as: People have a certain amount of intelligence, and they can't do much to change it; and A person can change even their basic intelligence level considerably (Dweck, 2000). This questionnaire provided the data necessary to determine the growth or fixed intelligence mindset of the building principals.

In order to determine the classification of the participants as either incremental, entity, or unclassified, the average score was calculated across all eight items. Items were scored from 1 (*Strongly Agree*) to 6 (*Strongly Disagree*). To calculate the average score, it was necessary to first reverse score the incremental items (items 3, 5, 7, and 8). Individual scores from all eight items were then added together, and an average overall score was calculated for each respondent. Participants were classified as entity theorists if their overall implicit theory score was 3.0 or below. They were classified as incremental theorists if their overall score was 4.0 or above. Participants whose scores fell between 3.0 and 4.0 were identified as unclassified.

## Data Collection Procedures

The data collection for the study occurred through a questionnaire. The data collection was approved by the Youngstown State University Institutional Review Board. All Institutional Review Board policies and guidelines were followed. The instrument in this study was administered to building principals electronically. This quantitative method allowed for a statistical analysis of the data collected. Electronic questionnaires provide some advantages in survey research. Increased convenience, reduced cost of distribution, decreased data entry, a multimedia interface and allowance for response on portable devices, and more rapid turnaround time are all advantages of administering a web-based survey (Fraenkel et al., 2012). A web-based survey was utilized in this study to increase the efficiency of distribution to participants and to aid in the data collection. Disadvantages in utilizing a web-based survey include lower response rates and inaccurate data entry on the part of the participants (Fraenkel et al., 2012). The sample size in the study was increased to account for the possibility of lower response rate, and the survey questions are direct and clearly worded to aid in the accuracy of responses.

The survey on mindset was administered electronically to building principals. Email addresses were available on the Ohio Department of Education's website to aid in collecting contact information for the principals in the schools that were selected. An introductory email explaining the study accompanied each survey. The survey was sent out to the 844 principals at one time. A follow up/reminder email was sent every four days following the initial distribution to ensure the 60% response rate.

For this study, the *Theories of Intelligence Scale (Others Form)* was given to building principals. The email invitation to participate in the study introduced the



researcher and asked the participant to click on the embedded link. The link redirected willing participants to the secure online survey hosted at SurveyMonkey. The survey began with the consent form, followed by demographic questions, and then the *Theories of Intelligence Scale (Others Form)*. The total survey took approximately 5 minutes to complete. The survey stated that only head building principals should complete the survey. Participants were also reminded that by clicking the “I agree” statement they were granting their consent to participate in the study. All responses were kept confidential, and no identifying information was used in the research report. The respondents were given two weeks to complete the online survey. SurveyMonkey provided a safe, secure, private online platform to conduct research. For this study, the researcher followed the Terms of Use outlined on the company’s website. By following the Terms of Use, SurveyMonkey gives permission to create, share, collect, and analyze data on the platform. After creating the survey, using the collector options tab, the anonymous responses option was turned on so that data collected excluded email and IP addresses. On the introduction page of the survey, the privacy practices were disclosed so that participants felt comfortable participating. The introduction stated, “The online survey will not collect personal information, such as emails or computer IP addresses. Your answers will be sent to and stored at a password protected link. No one, including the researcher, will know you participated in the study.” The survey was shared using the web link collector type function. After the survey was created, a usable web link was generated. The link was embedded in the email which was sent to building leaders in the study sample. Under the collector control option, the survey was set to open at a specific time.

Once the survey was open, respondents could complete the survey, and data were collected. The survey was set to close two weeks later. If respondents attempted to complete after the deadline, a message that the survey was closed popped up. An online consent form was created at the start of the survey (see Appendix C). If the participants met the criteria and willingly chose to participate, a button stated, “I agree” began the survey. The online consent stated, “ELECTRONIC CONSENT: By clicking “I agree” below you are indicating that you are at least 18 years old, have read and understood this consent form, and you voluntarily agree to participate in this research study.”

### **Data Analysis**

The data for this study were collected through the secure online platform SurveyMonkey and was downloaded to an Excel spreadsheet. Once the data were downloaded, it was transported to the statistical analysis program SPSS. Descriptive and inferential statistics were run on the data to analyze and compare the data sets. Descriptive statistics are used to describe the attributes of a distribution (Salkind, 2014). Descriptive statistics were run to document the growth or fixed mindset of the respondents. In addition, descriptive statistics were utilized to analyze the distribution of entity mindset, growth mindset, and unclassified participants based on their demographic characteristics.

Inferential statistics were also run on the data. A simple analysis of variance (ANOVA) was used to examine the differences between the mindset types based on the demographic information that was provided. According to Salkind (2014), when examining the differences between more than two groups, there are one or more variables, and the participants are being tested only once, it is appropriate to utilize the

simple analysis of variance. The test is referred to as an analysis of variance because the researcher is examining the fluctuation in the data from two perspectives: a variance that is a result of differences between entities within groups and a variance that is the result of differences between groups (Salkind, 2014). Subsequently, a comparison is made between the two forms of variance. This inferential statistical test was utilized to compare the differences between the mindset types of building principals and the demographic data collected through the survey.

### **Limitations**

Validity is defined as a reference to how appropriate, how meaningful, or how useful the researcher's specific assumptions are based on the collected data (Fraenkel et al., 2012). Validity relies on evidence to support the claims about the data that the researcher makes. Threats to validity can be external or internal. External validity deals with the degree to which the results from the study can be generalized to other groups or settings outside the research study (Fraenkel et al., 2012). There may be concerns with the external validity of this study, as the sample that was studied was from a specific geographical location. In addition, only public school systems, and consequently their buildings, were included in the sample. The purposive sampling procedure selected for the study should alleviate the concerns about external validity. Despite the limited geographic area, a wide variety of schools were included in the sample so as to account for concerns about external validity. Demographic information was included about the school districts and principals that participated that allows for generalizability to other districts in Ohio.

A social threat to construct validity may be hypothesis guessing on the part of the principals. The responses on the questionnaire on implicit theories may be influenced by the principal's desire to show a growth mindset. Prior research has shown that incremental items are more compelling to respondents (Dweck et al., 1995). Responses will be confidential and anonymous, so this limitation may be minimized. In addition, the reliability of the eight-item instrument for measuring implicit theories has been shown to have a high reliability (.93) (Levy et al., 1998).

### **Assumptions**

First, there was the assumption that there is a global relationship between mindset, leadership, and school climate. One must accept that these constructs have an interdependent relationship, with an ebb and flow of influence and effect. School climate is a multidimensional construct that encompasses all aspects of the educational experience (Hopson & Lee, 2011; Wang & Degol, 2016). Given the global nature of school climate, it was assumed that these constructs interact with one another on a regular basis. There is a relationship between transformational leadership and school climate (Anderson, 2017; McCarley et al., 2014). In addition, a people's implicit theories and mindset influence their decisions and their behaviors (Dweck, 2006). Leadership style is defined by the behaviors and decisions of the leader. Accepting the interaction of these constructs was necessary to understand the results.

In addition to the assumption of the interdependent relationship between constructs, there were also certain assumptions with regards to the individual constructs. There was an assumption that a growth mindset is the preferred mindset of educational leaders. Growth mindset people see intelligence and personality as entities that grow and

evolve with experience and learning (Dweck, 2006). Fixed mindset people believe that individuals are born with a fixed personality or limited intelligence (Dweck, 2006). To be clear, fixed mindset people do believe that learning can occur, but they also believe that there is a limit to the amount that can be learned by each individual. There is a relationship between growth mindset and transformational leadership (Anderson, 2017). With the evolution of education and the increased demands and accountability faced by building leaders, transformational leadership has been identified as a preferred leadership style (Anderson, 2017). It must be assumed that a growth mindset is the preferred mindset of a building leader in today's schools.

An assumption must also be made with regards to the constructs of leadership. It must be assumed that building leaders exhibit behaviors and make decisions that conform to a leadership style. Leadership theory has evolved over the years. Early leadership theory focused on a trait-based model of leadership. The trait-based model of leadership focused on identifying certain personality traits that led to success (Zaccaro, 2007). Leadership theory research then examined contingency leadership models. Contingency leadership theory focused on a leader choosing the best behaviors based on the situation (Johns & Moser, 1989). Fiedler's Contingency Model of Leadership and House's path-goal theory are examples of contingency leadership theory and situational leadership theory (Johns & Moser, 1989; Vroom & Jago, 2007). These models posit that a variety of leadership behaviors may be successful given the situation that is presented. More recently, however, transformational leadership has emerged as the preferred leadership style for modern schools (Anderson, 2017). Transformational leadership requires building leaders to motivate their followers to achieve greater results (Anderson, 2017).

Looking collectively at the evolution of leadership theory, it is clear that leadership behaviors determine the leadership style. It was assumed that all building leaders exhibit behaviors that are observable and measurable.

### **Summary**

The purpose of this descriptive study was to document the mindset of building leaders. This study was a quantitative, non-experimental descriptive study. The administered survey collected information on the mindset of building principals. The study was descriptive, as it only sought to document the mindset of building principals, not to determine whether one mindset was preferable over the other. The participants in the study were building leaders in the geographic region of northeast Ohio. All associate and assistant principals were excluded from the study. Each participant completed the *Theories of Intelligence Scale (Others Form)*. The researcher included demographic questions on the survey to aid in the analysis of the data collected.

Threats to validity are inherent in any study. In any research study showing a relationship, there is always the possibility that the relationship between constructs can be explained by an alternative reason, other than the relationship examined by the researcher (Fraenkel et al., 2012). The threats to validity were addressed by the researcher in order to minimize their impact. The purposive sampling procedures utilized by the researcher should alleviate the concerns about the external validity of the study. In addition, specific instructions were given to participants in order to alleviate the validity concerns regarding responses. In order to control for the social threat to building leaders' responses on the *Theories of Intelligence Scale (Others Form)*, it was explained that responses would be anonymous and confidential.

Finally, there were assumptions that were made with regards to the constructs examined in this study. The *Review of Literature* supported the interdependent relationship between the constructs of mindset, leadership, and climate. A relationship has been shown between positive school climate and higher GPA, higher reading scores, and higher student engagement (O'Malley et al., 2015; Ripski & Gregory, 2009; Zullig et al., 2011). It must be assumed that a growth mindset, as opposed to a fixed mindset, is the preferred mindset for a transformational leader to positively impact the school climate.

This study proposed to fill gaps in the research on mindset and leadership. The results of this study will contribute to the understanding of a leader's mindset. Understanding a leader's mindset can provide valuable information to aid in the hiring, training, and professional development of building leaders.

## CHAPTER IV

### RESULTS

The purpose of this quantitative, non-experimental survey study was to document building principals' growth or fixed mindset. It is appropriate to utilize survey research to describe the characteristics of a specific population (Fraenkel et al., 2012). In addition, in survey research, the researcher documents the distribution of participants over identified variables (Fraenkel et al., 2012). Principals' mindset was examined with regards gender, level of education, experience, community type, building level, and building size. Subsequently, a non-experimental design was employed because the researcher was describing an attribute, principal mindset, that could not be manipulated (Belli, 2008). Non-experimental research provides the foundation for future experimental research (Johnson, 2001). This study provided descriptive data that can be used in future studies regarding growth and fixed mindset and school leadership. This chapter presents findings related to the *Theories of Intelligence Scale (Others Form)* and the demographic data collected. In addition, findings are presented as related to the research questions:

1. Do building principals have a growth or fixed mindset?
2. Does the mindset of building principals differ based on the principal's gender, level of education, experience, community type, building level, or building size?

The researcher collected data in accordance with the conditions set forth by the Youngstown State University's Internal Review Board. A voluntary, online survey was delivered to 805 building principals. The number of delivered surveys decreased from



the original number of principals identified (847) due to incomplete, inaccurate, or incorrect email addresses of 42 of the participants. These respondents completed *Theories of Intelligence Scale (Others Form)* and several demographic questions. The researcher collected and analyzed the data utilizing the secure, online platform SurveyMonkey. Of the surveys distributed, 169 were deemed valid for analysis. According to Fowler's Sample Size table (1988), 506 participants were needed at a 95% confidence level with a 4% error rate. A response rate of 21% was achieved over the 14 days that the survey was available. The target response rate was 60%, as an increased response rate increases the likelihood that the results of the study can be generalized to the total population (Baruch & Holtom, 2008). The mindset type of building principals was documented, and descriptive statistics were utilized to explain the distribution of mindset types across the various demographic characteristics.

In addition, an inferential statistical test, ANOVA, was run to determine if there was a statistically significant difference between the mindset type of building principals and the demographic data collected. It was concluded that there was no statistically significant difference between the mindset of building principals and the demographic characteristics.

### **Response Summary**

The population for the study was principals in Ohio. Only head principals were considered for the study, so the survey was not sent to assistant or associate principals. Per the Ohio Department of Education's Ohio Educational Directory System, there are 3,206 public schools within 612 public school districts in Ohio (ODE, 2016). Non-random, purposive sampling was utilized to select the sample population for the study.

The target population was drawn from public schools in 10 counties in northeast Ohio. Public school systems in Ohio represent a diverse population of students, schools from a variety of community types, and a range of building sizes. The 10 counties selected for inclusion in the study are comprised of an array of school buildings with various demographic features. There were 847 principals identified in this geographic location. A voluntary, online survey was sent to the identified population. After giving consent, the principals were directed to complete general demographic questions and the *Theories of Intelligence (Others Form)* (Dweck, 2000).

The Ohio Department of Education's Directory information was utilized to identify the email addresses of the target population. Of these 847 emails, 42 were returned as *undeliverable* due to incorrect, inaccurate, or incomplete addresses. The final count of the surveys sent was 805 surveys. Of the 805 surveys, 196 were completed for a 24% response rate. Non-response is a concern in survey research (Fraenkel et al., 2012). People do not complete surveys for a variety of reasons, including forgetfulness, misunderstanding, or outright refusal to complete the survey. The primary reason for concern about non-response is that the people who failed to respond would answer differently than the respondents, thus impacting the results (Fraenkel et al., 2012).

There are two types of non-response, total non-response and item non-response. Total non-response refers to the targeted population that did not answer at all. For this study, 609 people did not respond to the survey resulting in a total non-response rate of 76%. Item non-response rate refers to respondents who failed to answer certain items on the survey. Upon examination of the data, 27 of the surveys were deemed incomplete, as the respondents only completed the demographic questions but did not complete the

*Theories of Intelligence (Others Form)*. Of the surveys completed, 169 were deemed valid for analysis. Thus, the final response rate was 21% for the usable data set. A preferred response rate for survey research is approximately 60% (Baruch & Holtom, 2008). The concerns about response rate are discussed in Chapter V of this study.

The results of the survey were collected anonymously through the secure online platform SurveyMonkey. The data were downloaded from SurveyMonkey to an Excel spreadsheet in order to facilitate analyzation. To get an overall score to determine mindset, it was necessary to reverse score the four incremental items on the *Theories of Intelligence Scale (Others Form)* portion of the survey. The incremental statements were numbered as items 11, 13, 15, and 16 on the survey. Individual scores from all eight items were then added together, and an average score for each respondent was calculated and documented in the Excel spreadsheet. The data from the Excel spreadsheet were then transferred from the Excel spreadsheet to SPSS, a statistical analysis program. Once the data were transferred, the researcher classified each of the respondents as entity, incremental, or unclassified based on the scoring recommendation from the *Theories of Intelligence (Others Form)*. Utilizing SPSS, the researcher was able to run a descriptive statistical analysis, as well as an inferential statistical analysis on the data collected through the survey.

### **Demographic Data**

Table 1 shows the demographic breakdown of the personal characteristics of the respondents. Of the 169 respondents, 81 (47.9%) were male, 87 (51.5%) were female, and one (0.6%) reported as other. With regards to education level of the respondents, 150 (88.8%) of the respondents indicated that they held a master's degree, and 19 (11.2%) of

the respondents indicated that they held a doctoral degree. The majority of administrators that responded to the survey had a mid-range average for classroom experience. Of the respondents, 10 (5.9%) indicated that they had a 0 to 4 years of experience in the classroom. There were 75 (44.4%) principals that indicated that they had 5 to 10 years of experience in the classroom; 48 (28.4%) respondents indicated 11 to 15 years classroom experience; 17 (10.1%) indicated that they had 16 to 20 years of classroom experience. Finally, 19 (11.2%) indicated that they had 20 or more years of experience in the classroom. The final question that requested personal information of the respondents required them to indicate their years of administrative experience. For this characteristic, 15 (8.9%) of respondents indicated that they had 0 to 4 years experience as an administrator; 65 (38.5%) indicated that they had 5 to 10 years administrative experience; 42 (24.9%) indicated 11 to 15 years of administrative experience; and 25 (14.8%) indicated 16 to 20 years of administrative experience. The final category, 20 + years of administrative experience, included 22 (13%) of the respondents.

Table 1

*Personal Demographic Information About Respondents*

Characteristic	n	%
Gender		
Male	81	47.9
Female	87	51.5
Other	1	.6

(continued)

Table 1

*Personal Demographic Information About Respondents (continued)*

Characteristic	n	%
Degree		
Masters	150	88.8
Doctorate	19	11.2
Classroom Experience		
0-4 years	10	5.9
5-10 years	75	44.4
11-15 years	48	28.4
16-20	17	10.1
20+	19	11.2
Administrative Experience		
0-4 years	15	8.9
5-10 years	65	38.5
11-15 years	42	24.9
16-20	25	14.8
20+	22	13

Table 2 shows the building-related demographic information. Survey results show that 80 (47.3%) principals revealed that they worked in an elementary building; 35 (20.7%) respondents indicated that they worked in a middle or junior high school; 41 (24.3%) respondents indicated that they worked in a high school; and 13 (7.7%) respondents indicated that they worked in a K-8 building. With regards to community type, 83 (49.1%) respondents worked in a suburban location, 42 (24.9%) worked in a rural community, and 44 (26%) worked in an urban location. The final characteristic regarding building demographics related to school population. Survey results show 8 respondents (4.7%) work in a building with less than 200 students; 82 respondents (48.5%) work in buildings with 201 to 500 students; 45 administrators (26.6) work in buildings with 501 to 800 students; 15 respondents (8.9%) work in buildings with 801 to 1,100 students; and 13 respondents (7.7%) work in buildings with 1101 to 1500 students. One respondent (0.6%) worked in a building with 1,501 to 2,000 students, and 5 respondents (3%) worked in a building with more than 2,000 students.

Table 2

*Demographic Information of Buildings*

Characteristic	n	%
<b>Building grade level</b>		
Elementary	80	47.3
Middle/junior high	35	20.7
High School	41	24.3

(continued)

Table 2

*Demographic Information of Buildings (continued)*

Characteristic	n	%
K-8	13	7.7
Community Type		
Suburban	83	49.1
Rural	42	24.9
Urban	44	26.0
School population		
Less than 200 students	8	4.7
201-500 students	82	48.5
501-800 students	45	26.6
801-1100 students	15	8.9
1101-1500 students	13	7.7
1501-2000 students	1	0.6
2000+ students	5	3.0

## Research Question 1

Research Question #1: Do building principals have a growth or fixed mindset?

In addition to the demographic questions on the survey, principals were asked to complete the *Theories of Intelligence Scale (Others Form)*. The *Theories of Intelligence (Others Form)* was created by Carol Dweck and her colleagues to gauge a person's implicit theories about others' intelligence. The eight-item scale has been shown to be valid and reliable (Levy et al., 1998). Based on Dweck's scoring guidelines, principals were classified as having an incremental (growth) mindset if their score on the *Theories of Intelligence Scale (Others Form)* was 4.0 or higher. Principals were classified as having an entity (fixed) mindset if their score on the *Theories of Intelligence Scale (Others Form)* 3.0 or lower. Principals who scored between 3.0 and 4.0 were identified as unclassified.

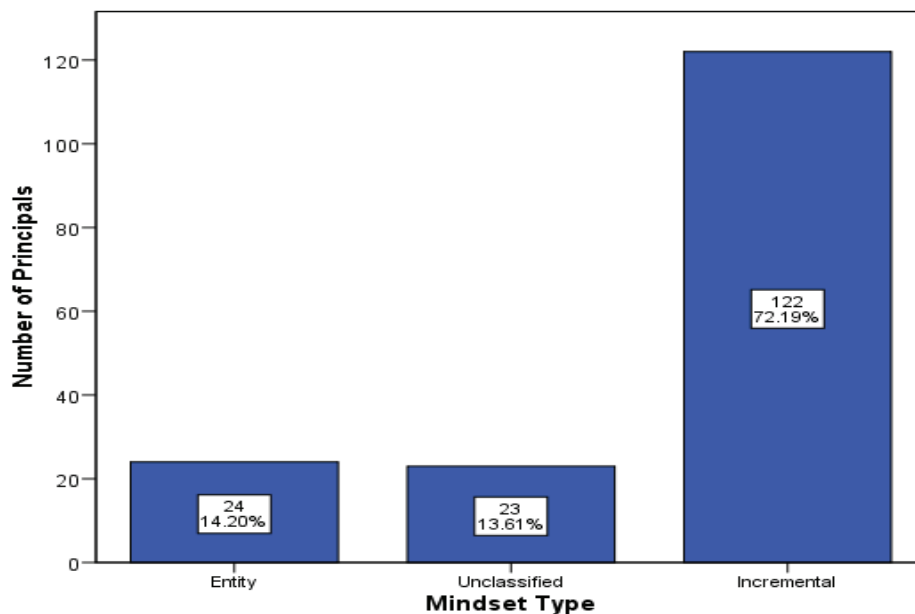


Figure 2: Number of principals as categorized by mindset type.



Figure 2 shows the number of principals according to the classifications of entity mindset, unclassified, and incremental mindset. Current research findings show that 24 (14.2%) principals scored with an entity mindset (scores below 3.0). In addition, 122 (72.2%) principals scored with an incremental mindset (scores above 4.0). Finally, 23 (13.6%) principals were designated as unclassified, as their scores fell between 3.0 and 4.0, and scores within that range do not indicate a propensity for one mindset type or another.

Table 3

*Mean Score for Mindset Type*

Mindset Type	Mean	n	Std. Deviation
Entity	2.387	24	.5269
Unclassified	3.548	23	.2447
Incremental	4.983	122	.6475
Total	4.419	168	1.1279

Table 3 shows the mean score for each mindset type. Calculating the mean score shows the average score for all respondents in a particular classification. The mean score for principals identified with an entity mindset (n = 24) was 2.4 (SD = .53). The mean score for principals with an incremental mindset (n = 122) was 5.0 (SD = .65). Principals who were categorized as unclassified (n = 23) showed a mean score of 3.5 (SD = .24).

## Research Question 2

Research Question #2: Does the mindset of building principals differ based on the principal’s gender, level of education, experience, community type, building level, or building size?

Mindset type was analyzed with respect to the demographic questions included at the beginning of the survey. Mindset type was disaggregated to show the distribution of mindset types across the various demographic characteristics.

Table 4

*Distribution of Mindset Type and Principals’ Gender*

Gender	Entity		Incremental		Unclassified	
	n	%	n	%	n	%
Male	16	67	55	45	10	43
Female	8	33	66	54	13	57
Other			1	1		

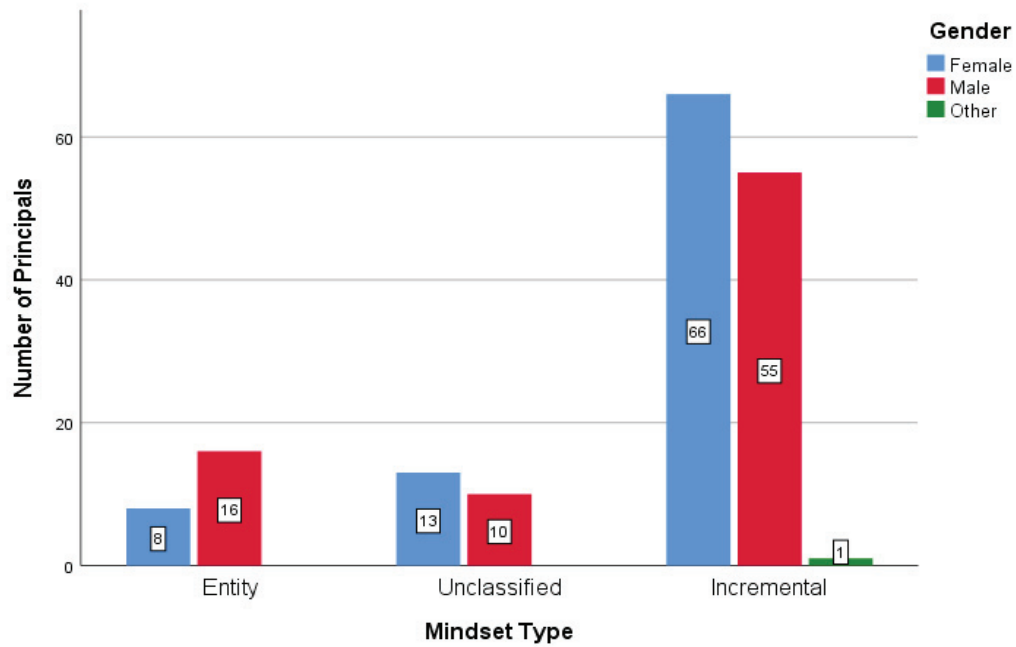


Figure 3: Mindset type and principals' gender.

Figure 3 and Table 4 show the distribution of principal mindset type across gender. Of the principals with an entity mindset ( $n = 24$ ), 8 (33%) were female, and 16 (67%) were male. Unclassified principals ( $n = 23$ ) reported 13 (57%) females and 10 (43%) males. Finally, of the principals with an incremental mindset ( $n = 122$ ), 66 (54%) were female, 55 (45%) were male, and 1 was other.

Table 5

*Distribution of Mindset Type and Principals' Educational Degree*

Education	Entity		Incremental		Unclassified	
	n	%	n	%	n	%
Doctorate	5	26	9	48	5	26
Master's	19	13	113	75	18	12

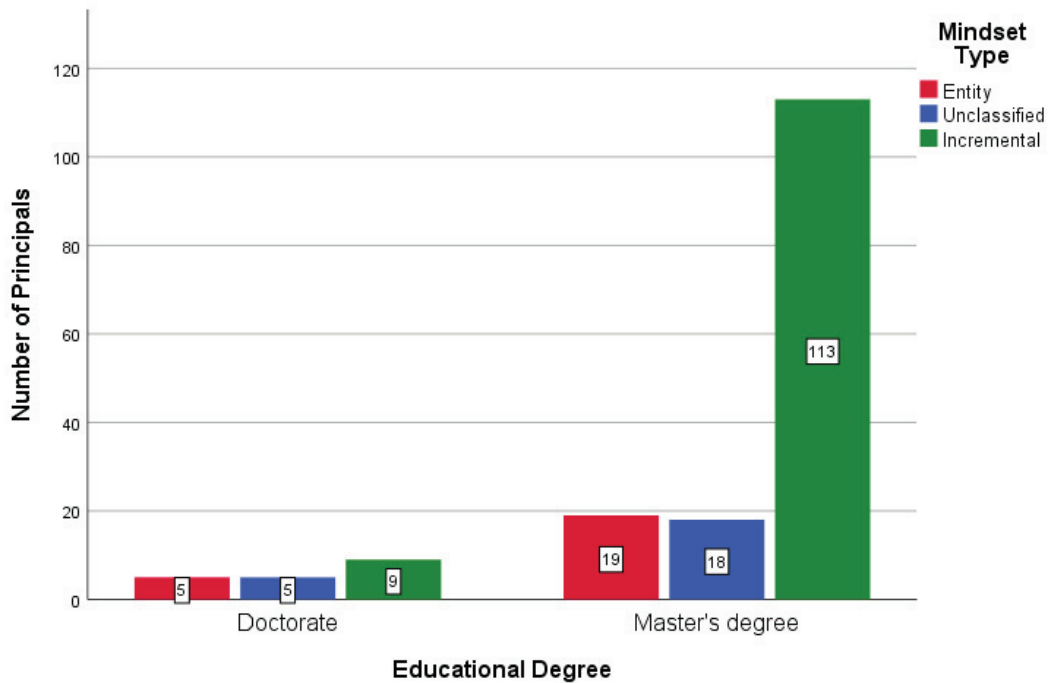


Figure 4: Mindset type and principals' degree.

Figure 4 and Table 5 show the distribution of mindset type by degree earned by the respondents. Principals with a doctorate (n = 19) were categorized as 5 entity mindset, 9 incremental, and 5 unclassified. Principals with a master's degree (n = 150) were categorized as 19 entity mindset, 113 incremental mindset, and 18 unclassified. In

both the doctoral degree and master’s degree designation, the entity mindset and unclassified mindset were similar in number; however, the percentage of the entity mindset and unclassified mindset for principals with doctoral degrees was 53%, and the entity mindset and unclassified mindset percentage for principals with a master’s degree was 25%. Of the respondents, principals with a doctoral degree were approximately two times more likely to have an entity or unclassified mindset than principals with a master’s degree.

Table 6

*Distribution of Mindset Type and Principals’ Years of Classroom Experience*

Years of Classroom Experience	Entity		Incremental		Unclassified	
	n	%	n	%	n	%
0-4	3	30	6	60	1	10
5-10	12	16	52	69	11	15
11-15	6	12.5	35	73	7	14.5
16-20	2	12	12	70	3	18
20+	1	5	17	90	1	5

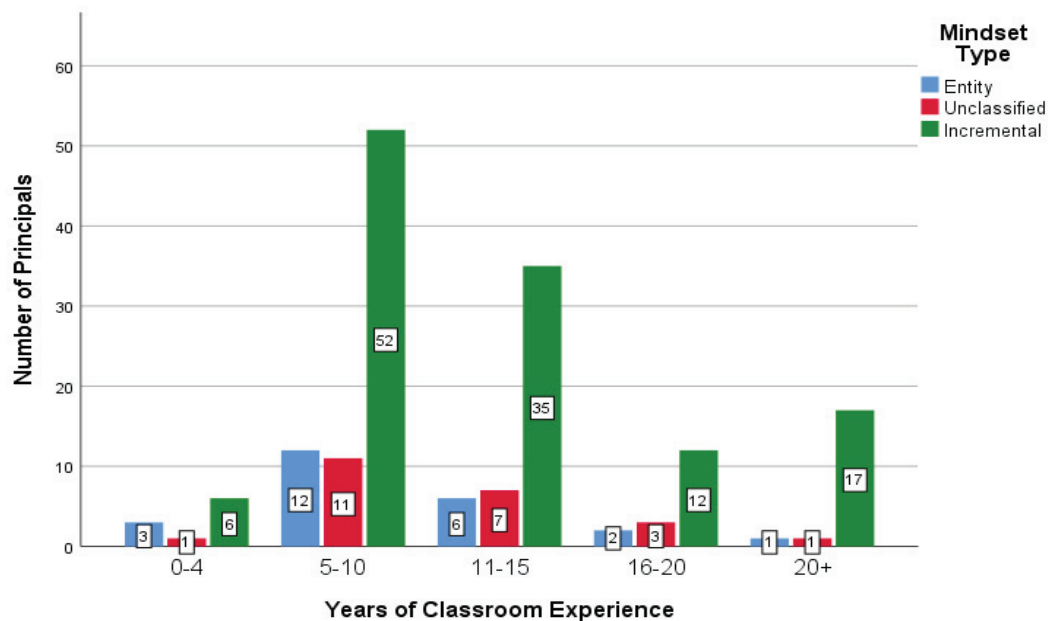


Figure 5: Mindset type and principals' classroom experience.

Figure 5 and Table 6 show the distribution of mindset type with respect to the respondents' classroom experience. Of principals with 0-4 years experience ( $n = 10$ ), 3 (30%) scored with an entity mindset, 6 (60%) scored with an incremental mindset, and 1 (10%) scored as unclassified. The survey results showed that 5-10 years of administrative experience ( $n = 75$ ) had the highest number of respondents. In this category, 12 (16%) scored with an entity mindset, 52 (69%) had an incremental mindset, and 11 (15%) scored as unclassified. Of the principals with 11-15 years experience ( $n = 48$ ), 6 (12.5%) scored with an entity mindset, 35 (73%) had an incremental mindset, and 7 (14.5%) scored in the unclassified range. Of principals with 16-20 years experience ( $n = 17$ ), 2 (12%) scored with an entity mindset; 12 (70%) had an incremental mindset; and 3 (18%) scored as unclassified. Finally, of the principals with 20 or more years of experience ( $n = 19$ ), 1 (5%) respondent scored with an entity mindset; 17 (90%) had an incremental mindset, and 1 (5%) scored in the unclassified range.

Table 7

*Distribution of Mindset Type and Principals' Years of Administrative Experience*

Years of Administrative Experience	Entity		Incremental		Unclassified	
	n	%	n	%	n	%
0-4	2	13	9	60	4	27
5-10	7	11	53	81	5	8
11-15	8	19	28	67	6	14
16-20	4	16	15	60	6	24
20+	3	14	17	77	2	9

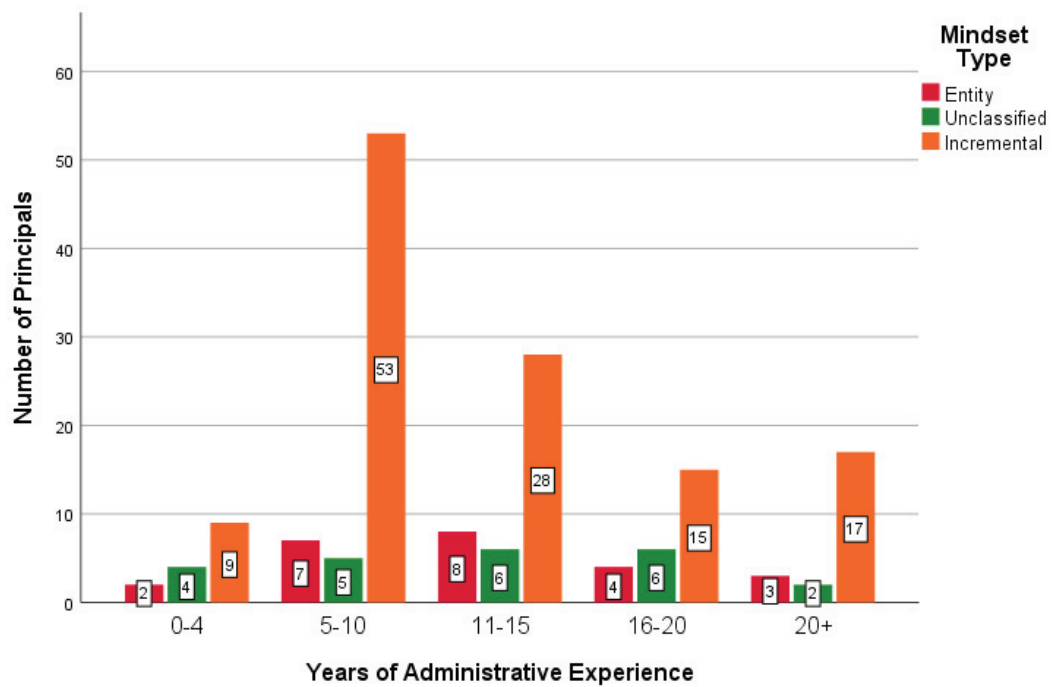


Figure 6: Mindset type and principals' administrative experience.

Figure 6 and Table 7 show the distribution of principals' mindset type with regards to their administrative experience. Responses show that of the principals with 0-4 years administrative experience (n = 15), 2 (13%) scored with an entity mindset, 9 (60%) with an incremental mindset, and 4 (27%) scored as unclassified. The highest reporting category was principals with 5-10 years of administrative experience (n = 65). The results show 7 (11%) with an entity mindset, 53 (81%) with an incremental mindset, and 5 (8%) scored as unclassified. Of the principals with 11-15 years experience (n = 42), 8 (19%) scored with an entity mindset, 28 (67%) scored with an incremental mindset, and 6 (14%) scored as unclassified. In the 16-20 years of experience range (n = 25), 4 (16%) respondents scored with an entity mindset, 15 (60%) scored with an incremental mindset, and 6 (24%) scored as unclassified. Finally, principals with 20 or more years of experience (n = 22) reported as 3 (14%) with an entity mindset, 17 (77%) with an incremental mindset, and 2 (9%) as unclassified.

Table 8

*Distribution of Mindset Type and Building Community Type*

Community Type	Entity		Incremental		Unclassified	
	n	%	n	%	n	%
Rural	9	21	26	62	7	17
Suburban	12	14	60	72	11	13
Urban	3	7	36	82	5	11



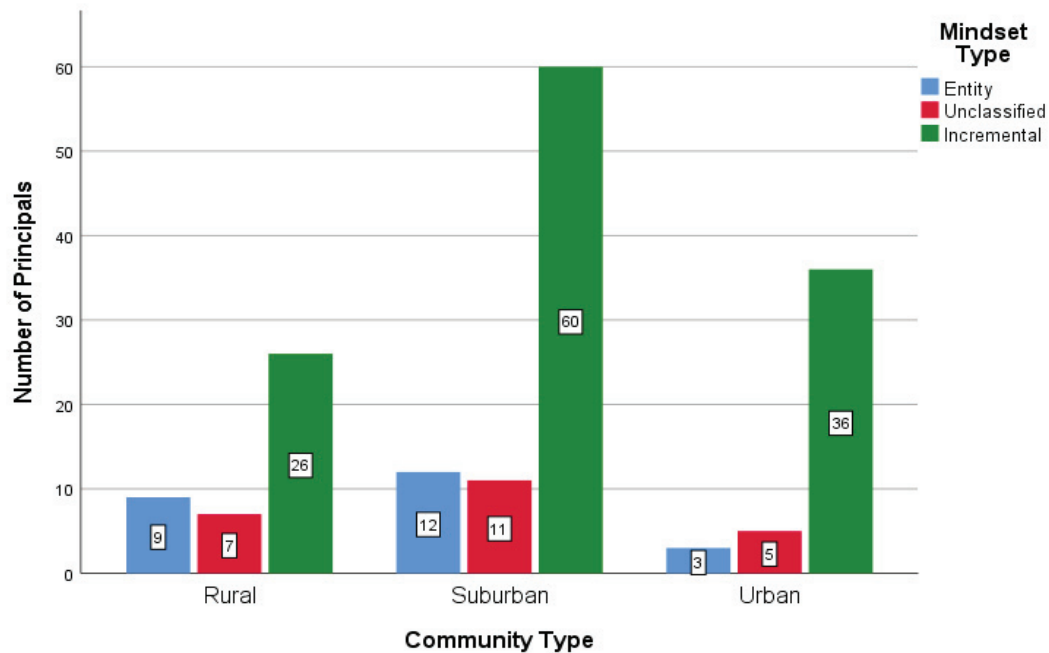


Figure 7: Principals’ mindset type and building community type.

Figure 7 and Table 8 show the mindset type of building principals and the location of the school they lead. Respondents were asked to identify where their schools were located with respect to community type: rural, suburban, or urban. No guidelines were given for the designations, so the respondents answered based on their individual understandings of each school type. The responses show that 42 principals were from rural schools, 83 principals were from suburban schools, and 44 were from urban schools. The distribution of mindset types in the rural buildings (n = 42) was 9 (21%) with an entity mindset, 26 (62%) were incremental mindset, and 7 (17%) were unclassified. Distribution of mindset types in the suburban buildings (n = 83) was 12 (14%) for entity mindset, 60 (72%) for incremental mindset, and 11 (13%) for unclassified. Distribution of mindset types for urban schools (n = 44) was 3 (7%) for entity mindset, 36 (82%) for incremental mindset, and 5 (11%) for unclassified.

Table 9

*Distribution of Mindset Type and Building Grade Level*

Building Grade Level	Entity		Incremental		Unclassified	
	n	%	n	%	n	%
Elementary	12	15	56	70	12	15
Middle/junior high	6	17	24	69	5	14
High school	4	10	32	78	5	12
K-8	2	15	10	77	1	8

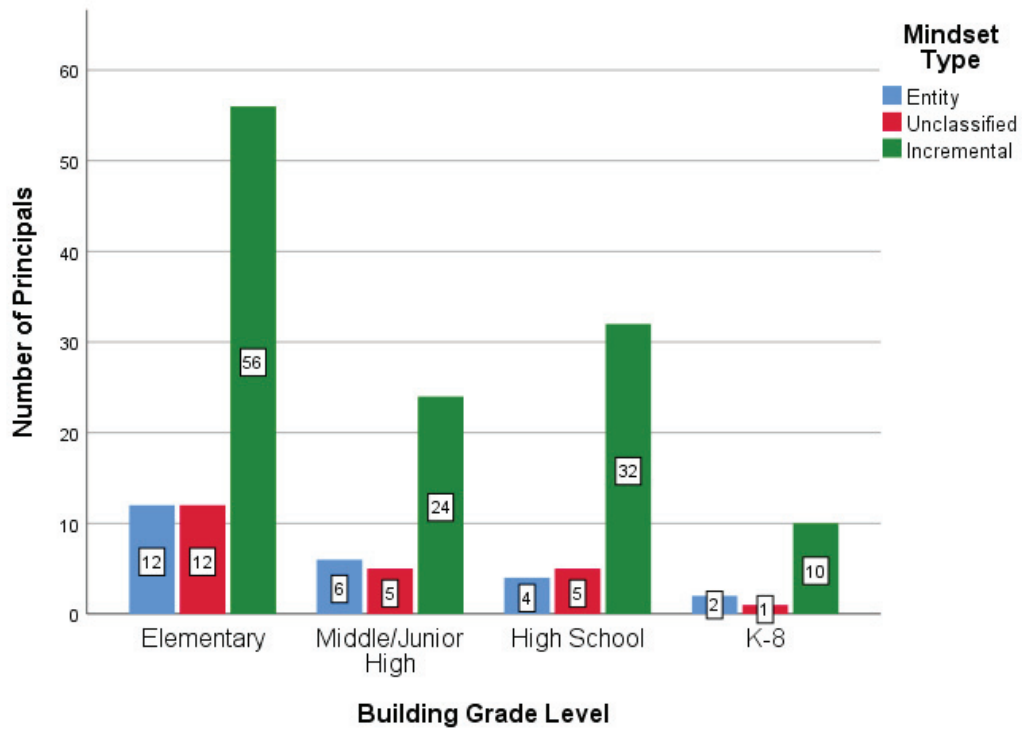


Figure 8: Principals' mindset type and building grade level.

Figure 8 and Table 9 show the distribution of principals' mindset type across the building grade levels. The current research findings show 80 principals in the elementary setting, with 12 (15%) scoring with an entity mindset, 56 (70%) scoring with an incremental mindset, and 12 (15%) scoring as unclassified. Respondents that reported working in a middle/junior high building showed 6 (17%) as entity mindset, 24 (69%) as incremental mindset, and 5 (14%) principals as unclassified. In the high school setting, 4 (10%) principals scored with an entity mindset, 32 (78%) scored with an incremental mindset, and 5 (12%) scored as unclassified. Finally, of those principals that reported working in a K-8 building 2 (15%) scored with an entity mindset, 10 (77%) scored as incremental mindset, and 1 (8%) scored as unclassified.

Table 10

*Distribution of Mindset Type and School Population*

Number of Students	Entity		Incremental		Unclassified	
	n	%	n	%	n	%
Less than 200	1	12.5	7	87.5	0	0
201-500	9	11	60	73	13	16
501-800	7	16	32	71	6	13
801-1100	4	27	8	53	3	20
1101-1500	2	15	10	77	1	8
1501-2000	0	0	1	100	0	0
2001+	1	20	4	80	0	0

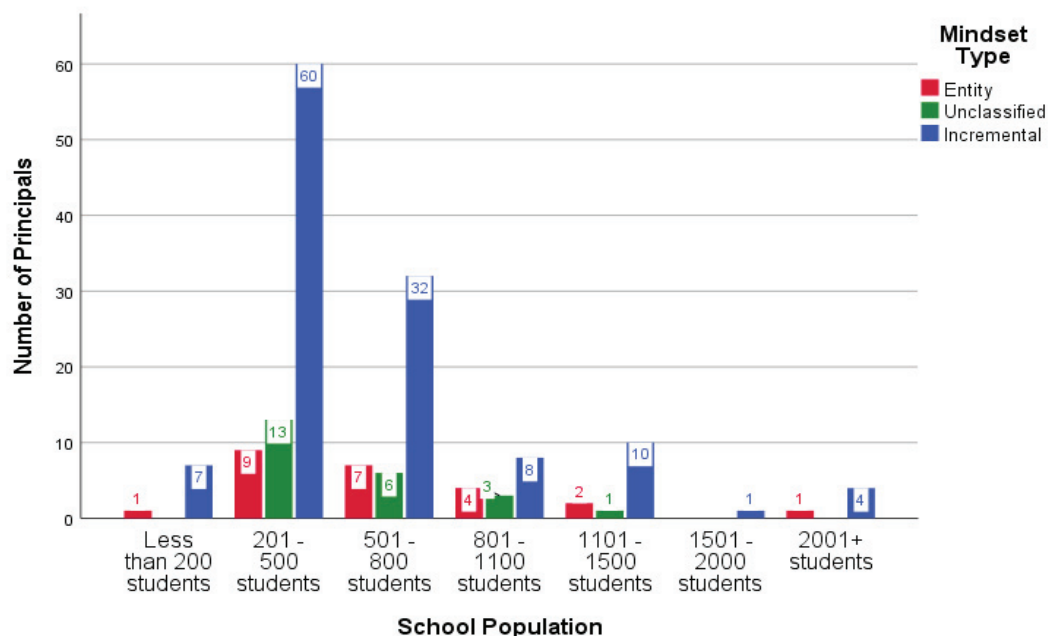


Figure 9: Principals' mindset type and school population.

Figure 9 and Table 10 show the distribution of building principals mindset type across different sized buildings. For the purposes of this research study, the building sizes were divided into seven categories. The responses show that 8 principals reported working in buildings with less than 200 students; 1 (12.5%) scored as entity mindset, 7 (87.5%) scored as incremental, and 0 (0%) scored as unclassified. The second category of building size, 201-500 students, had the greatest number of respondents, 82 respondents. Of these principals, 9 (11%) scored with an entity mindset, 60 (73%) scored with an incremental mindset, and 13 (16%) scored as unclassified. In buildings that had 501-800 students (n=45), 7 (16%) respondents scored entity mindset, 32 (71%) scored as incremental mindset, and 6 (13%) scored as unclassified. Of the 15 respondents that reported working in buildings with 801-1100 students, 4 (27%) scored with an entity mindset, 8 (53%) scored incremental mindset, and 3 (20%) were unclassified. Principals that reported working in buildings of 1101-1500 students (n=13) had 2 (15%)

respondents score with an entity mindset, 10 (77%) score with an incremental mindset, and 1 (8%) score as unclassified. Only one respondent reported working in a building with 1501-2000 students. This respondent scored with an incremental mindset. Finally, 5 respondents reported working in buildings with 2000 or more students. Of these principals, 1 (20%) scored with an entity mindset, 4 (80%) scored as having an incremental mindset, and 0 (0%) scored as unclassified.

### **Inferential Statistical Tests**

Inferential statistics are utilized to make educated conjectures about the overall population based on the characteristics of the sample population in the study (Salkind, 2014). For this study, an analysis of variance (ANOVA) test was run on all groups in the study: gender, degree, classroom experience, administrative experience, building level, community type, and school size. An ANOVA test was appropriate to utilize in this study because the researcher was examining the differences between two groups of one or more variables and the participants were only tested one time (Salkind, 2014). A significance level of  $p < .05$  was utilized to analyze the results of the ANOVA tests. The size of the effect, as well as the size of the sample, affects the statistical power (Salkind, 2014). The ANOVA test conducted in this study resulted in low power. In addition, the sample size resulted in a low response rate for the study. The results of the ANOVA tests are not included in these findings because no statistically significant findings were revealed.

### **Summary**

Chapter IV presents the results from this descriptive survey study. Building principals in Ohio were the target population for the study, and the sample was drawn

from public schools in 10 counties in northeast Ohio. There were 805 surveys sent to principals in this area. Of the distributed surveys, 169 were returned with valid responses, for a return rate of 21%. Principals were asked to complete a set of demographic questions and then complete the *Theories of Intelligence Scale (Others Form)* to collect the data necessary to answer the research questions.

The first research question sought to document building principals' mindset type. Current research findings show that 14.2% of respondents had an entity mindset. An entity mindset is indicated by a score below 3.0 on the *Theories of Intelligence Scale (Others Form)*. Of the respondents, 72.2% had an incremental mindset. An incremental mindset is indicated by a score above 4.0 on the *Theories of Intelligence Scale (Others Form)*. Finally, 13.6% of respondents were categorized as unclassified because their scores fell between 3.0 and 4.0.

The second research question sought to analyze the mindset type across the demographic variables of gender, level of education, experience, community type, building level, and building size. The results show that 51.5% of respondents were male, 47.9% were female, and 0.6% reported as other. The majority of respondents had a master's degree (88.8%), while the remaining 11.2% had a doctorate. Most respondents reported a mid-range number of years of classroom experience, with 72.8% reporting 5-15 years of classroom experience. The results show a similar range for administrative experience, with 63.4% of respondents reporting 5-15 years of administrative experience.

Demographic information was also collected with regards to the buildings where the principals worked. Survey results showed that 47.3% of the buildings were elementary, 20.7% were middle/junior high buildings, 24.3% were high school, and 7.7%

were K-8 buildings. Respondents reported on the type of community where their school was located. Principals in suburban locations (49.1%) were the highest reporting location, 26% from urban locations, and 24.9% from rural locations. Finally, respondents reported their school populations. The majority of schools (75.1%) had 201-800 students.

Inferential statistical tests were run on the data collected through this study. An ANOVA test was run to compare the differences between the demographic groups responding to the survey. The ANOVA tests showed no significant statistical difference between the groups. Due to the low power of the tests, and the size of the sample, there is a concern with a Type II error in this study. These concerns are discussed in Chapter V.

## CHAPTER V

### SUMMARY OF THE STUDY

To provide a foundation for future research into leadership and mindset, this descriptive survey study sought to document the growth or fixed mindset of building principals. Building leaders have the ability to influence student achievement. Hattie (2015) posited that leaders who understand the impact of their behaviors and decisions have the greatest influence on student achievement. Hattie's research (2015) showed that setting high goals, evaluating leadership effectiveness, and fostering high impact teaching and learning are leadership behaviors that have above average effect sizes on student learning. In addition, research shows that positive school climate is a significant predictor of student achievement (MacNeil et al., 2009; Maxwell et al., 2017; Stewart, 2008). Quality building leadership and positive school climate are critical components of successful schools (McCarley et al., 2016). Leadership, school climate, and mindset are constructs that interact within the school environment to impact student success.

In addition, the study proposed to examine the principals' mindset with regards to demographic characteristics, such as gender, level of education, experience, community type, building level, and building size. The target population for the study was principals in Ohio. The sample population was building principals in 10 counties in northeast Ohio. The researcher sent out 805 surveys to principals in the identified counties. Of these surveys, 169 were deemed valid for inclusion in the study, which amounts to a 21% response rate.

For the survey, respondents were asked to complete a set of demographic questions. In addition, respondents completed the *Theories of Intelligence Scale (Others*



*Form*) to determine their mindset type. Based on the instrument recommendations for scoring, respondents were categorized as having an entity mindset if their score on the *Theories of Intelligence Scale (Others Form)* was below 3.0. Respondents were categorized as having an incremental mindset if their score was above 4.0. Finally, if the score was between 3.0 and 4.0, then respondents were categorized as unclassified.

Descriptive statistics were presented with respect to the respondents, as well as ANOVA tests to examine the relationship between the characteristics of the respondents. This chapter discusses the findings of these tests, the significance of the study, and implications for future research.

### **Summary of Findings**

This Summary of Findings discusses the results of the study. This section also addresses the sample size of the study. In addition, Type I and Type II errors are discussed, as well as their potential impact on the research conclusions. The section is organized into the presentation of the demographic characteristics of the respondents, findings related to research question one, findings related to research question two, and threats to conclusion validity.

Of the survey responses, 169 were deemed valid for analysis. Each respondent was a building principal in one of 10 counties in northeast Ohio. The demographic information showed that a similar percentage of male (47.9%) and female (51.5%) principals responded to the survey. This indicates that there is an equal distribution of males and females in leadership roles in public school buildings.

The education level of the respondents was reported as 88.8% with a master's degree, and 11.2% with a doctoral degree. In the field of education, it is typical to

acquire a master's degree while in the process of attaining an administrative license. Consequently, it was expected that all respondents would have at least a master's degree. However, the small percentage of doctoral degrees indicated that many building administrators do not continue their education to attain a higher degree. Although the total number of educational doctoral degrees awarded in the United States has increased from 6,246 in 1996 to 11,829 in 2016, the number of educators attaining their doctoral degrees represents only 6.7% of the total doctoral degrees conferred by institutions of higher learning (U.S. Department of Education, 2018). There could be several reasons for the failure to pursue a higher degree. One reason may be due to the lack of time available for pursuing higher education goals because of the demands of their current role of building principal. In addition, the majority of respondents reported that they are in the early to midrange of their career by indicating 5 to 15 years of experience both in the classroom and as an administrator. Age of the respondents, which was a demographic not collected, may have a bearing on whether or not they are at a point in their career to pursue the next level of education. Finally, the failure to pursue a higher degree may be impacted by the cost associated with the education. Oftentimes, there is no financial compensation, either in reimbursement for courses or an increase in pay, for the attainment of a doctoral degree. Any of these reasons may contribute to the low number of doctoral degrees attained by respondents.

The survey results showed that most respondents were in the mid-range of both classroom and administrative experience. With regards to classroom experience, 72.8% of respondents reported their experience between 5-15 years. In addition, 63.4% of respondents reported their administrative experience between 5-15 years. These results

indicate that a majority of respondents are early to midway through their careers. Based on these statistics, building principals are spending over five years in the classroom before they enter the administrative ranks. In Ohio, the current experience requirement for principal licensure is two years in the classroom (Ohio Department of Education, 2018). The results of this study show that teachers are spending longer in the classroom than is required for principal licensure. During this time, teachers who are interested in acquiring an administrator license could be experiencing valuable training and professional development opportunities that are creating and fostering the growth mindset that was revealed in this study.

Demographic characteristics were also collected regarding the buildings in which the principals worked. The results of these demographics appear to be representative of the population that was surveyed. The majority of respondents worked in an elementary building (47.3%). This is representative of the fact that there are more elementary buildings. Elementary buildings tend to be smaller in size, which may be reflected in the percentage of buildings that have 201-800 students (75.1%).

### **Research Question #1: Do Building Principals Have a Growth or Fixed Mindset?**

After completing the demographic questions on the survey, respondents were directed to complete the *Theories of Intelligence Scale (Others Form)*. This instrument was developed by Carol Dweck and her colleagues to determine a person's perception of other people's intelligence. Other surveys exist to measure a person's implicit theories (Dweck, 2000). This instrument was appropriate to utilize in this study as it focused on the domain specific area of intelligence.

Descriptive statistics were run on the data collected to answer research question one. Research findings showed that 72.2% of principals scored with an incremental mindset. In order to be categorized as having an incremental mindset, based on the instrument recommendations, respondents scored above a 4.0 on the *Theories of Intelligence Scale (Others Form)*. The number of principals with an incremental mindset was significantly higher than those that had an entity mindset (14.2%) or those who scored as unclassified (13.6%). When analyzing the data and reviewing previous relevant research, the significant difference in principal mindset types may be due to several factors. First, the large percentage of incrementalists may be due to the fact that many educators are drawn to the profession because they want to help children learn. In an article about teaching preservice teachers, Delpit (2006) described key characteristics of teachers. Included in the list of characteristics are components of growth mindset, such as setting high expectations, denouncing stereotyping, and building on student strengths. This article highlights the idea that teachers should possess these characteristics in order to be successful. Dweck (2006) contended the same basic principles for successful teachers: that high standards should be set for all and a judgment-free environment should be created for all. As interest inventories are often utilized by high school students to guide them in career exploration and choice, students that enter the field of education may already have a propensity towards incremental mindset before they even enter the field.

There may be additional factors that affected the results of the *Theories of Intelligence Scale (Others Form)* such as years of experience, education level, and training. Based on the demographic information collected through the survey, a majority

of respondents reported between 5-15 years of classroom and administrative experience. During the course of their tenure in education, educators are exposed to quality teaching and learning. As they become more comfortable with their role in the classroom and as an administrator, they are more able to focus on getting better at their job. Thus, the more experience a building principal has, both in the classroom and as an administrator, may lend itself to a better understanding of student learning and the impact quality teaching has on student achievement. In addition, all respondents had either a master's degree or a doctoral degree.

Upon contemplation of the impact of this information, it should be noted that the mere education of building administrators may impact their mindset type. Through exposure to a wide variety of scholarly information and viewpoints, by virtue of gaining an administrative license, principals may gain the knowledge base to understand the ability of students and teachers to grow and change over time. Most educator training programs include some sort of diversity or cultural sensitivity training. In an article for the National Education Association, it was noted that over 75% of new teachers report that they received training in teaching diverse students (Walker, 2011). While the training itself may not create a growth mindset, the subject matter may be the catalyst to growing an incremental mindset. Incremental mindset people exhibit a lower level of stereotyping behaviors than those with an entity mindset (Dweck, 2000). Successful building principals create an environment that is safe and engaging in order to promote student success. Incrementalists tend to focus on mediational factors, recommending remedial action and education to encourage change and acceptance of differences

(Dweck et al., 1995). Through the training and education they receive, building administrators may be positioned to have and continue to grow an incremental mindset.

Finally, it is evident, through the very journey that principals take to reach their position, that they are exposed to a variety of students, families, and community members. It is incumbent upon building principals to create an inclusive environment that supports all students and families. Effective leaders create a shared vision with their constituents to set clear goals for the building (Anderson, 2017; Day et al., 2016). In addition, they create learning experiences for teachers and students that encourage learning and growth (Anderson, 2017; McCarley et al., 2016). According to Dweck (2006), effective educators create an environment with high standards, but also one that nurtures and cares for its students. An incremental mindset is critical to foster this environment because it is necessary to release stereotypes, encourage cooperation, and propose challenges (Dweck, 2006; Hirschfeld et al., 2008). Building leadership is defined by the principal's behaviors and decisions. The majority of respondents in this study reported a midrange number of years of experience: 72.8% of respondents reported their classroom experience between 5-15 years, and 63.4% of respondents reported their administrative experience between 5-15 years. This extensive experience may have provided the opportunities for principals to develop their incremental mindset. Based on these research findings, the experience that principals have may increase the likelihood that they will have an incremental mindset.

**Research Question #2: Does the mindset of building principals differ based on the principal's gender, level of education, experience, community type, building level, or building size?**

In order to analyze the data with regards to specific characteristics of the respondents, inferential statistics were utilized. Inferential statistics are appropriate when the researcher is interested in making inferences about the general population based on the sample population's data (Fraenkel et al., 2012). An analysis of variance (ANOVA) test was run on the demographic characteristics of the respondents. No statistically significant findings were found from this analysis. These results are further discussed in the Threats to Validity section of Chapter V, as well as in Implications for Future Research.

**Threats to Validity**

**Sampling**

Sampling error is always a concern in survey research (Fraenkel et al., 2012; Salkind, 2014). The target population in this study was building principals in Ohio. A purposive sampling technique was utilized to reach building administrators in 10 counties in northeast Ohio. Purposive sampling allows the researcher to gain access to the target population quickly and inexpensively (Trochim & Donnelly, 2008). It is a nonprobability sampling technique that is utilized when there is not a high level of concern about drawing conclusions from the sample population to the general population (Etikan, Musa, & Aldassim, 2016). In this study, a homogeneous sample was selected, as the research questions were directed specifically to the mindset type of building principals. This technique was appropriate for the research design, as it was important to focus on the

exact similarity between the sample and the general population (Etikan et al., 2016). However, selecting a homogeneous sample may have affected the results of the study. First, as the sample focused specifically on building principals, there was a higher likelihood that the respondents would be similar in their answers. Based on the job, all participants had similar experience and education levels. In addition, the sample was drawn from a common geographical location in northeast Ohio. The principals in this area may have exposure to similar training and professional development. The homogeneity of the sample may have resulted in the lack of differences between the demographic characteristics of the sample.

Another threat to the external validity of the study was the response rate. The sample size recommended by Fowler's Sample Size Table was 506 participants at a 95% confidence interval with a 4% error rate (1988). In order to minimize this threat, the sample size was increased to 847 participants in an attempt to achieve a 60% response rate and maintain the 506 participant threshold. For this study, 169 survey responses were considered valid for analysis from the 805 surveys that were distributed to participants, resulting in a response rate of 21%. The researcher attempted to increase participation by including an introductory email and sending reminders to the participants over the timeframe that the survey was available. The low response rate may be partially due to the fact that the survey was administered online. According to Nulty (2008), surveys administered online typically have a lower response rate than those administered on paper. There are a number of reasons this may be true. First, respondents may have had time constraints when attempting to respond to the survey, as the surveys were sent to their work email addresses. In addition, participants may have had concerns with



anonymity in completing the survey. Although the researcher clearly explained that responses were being collected anonymously, there may have been concern that there would be some way to track the respondents' answers. Finally, the response rate may have been affected by the complex job description of building principals. Principals have an overwhelming number of job responsibilities and tasks that must be completed during the day. Although the introductory email explained that the survey would only take five minutes, when prioritizing tasks for completion, this survey study may have been deemed unimportant.

### **Type I and Type II Errors**

Two threats to conclusion validity are Type I and Type II errors. Both of these errors deal with the conclusions that are drawn based upon the research data. A Type I error is also known as finding a false positive. In other words, the researcher finds a relationship between the variables when one does not exist (Trochim & Donnelly, 2008). A Type I error occurs when multiple analyses are run on a data set, and each analysis is treated independently of one another. In this study,  $p < .05$ . ANOVA tests were run on the demographic data collected through the study, and no statistically significant findings were found. Multiple analyses were not run on this data set, so the concerns about a Type I error have been minimized.

The second threat to conclusion validity is a Type II error, also known as a false negative. Finding no relationship between variables when one exists results in a Type II error (Trochim & Donnelly, 2008). In other words, a Type II error is the failure to note a difference when one exists. It is critical that researchers do not make the mistake of accepting the null hypothesis simply because no statistical significance has been found.

Lack of significance does not support the conclusion that the null hypothesis is true (Salkind, 2014). In fact, lack of significance merely indicates that the data do not provide enough information to prove that the null hypothesis is false. In this study, a Type II error is a concern because the response rate is low and the sample population is homogeneous, resulting in data that may lead to the false conclusion of accepting the null hypothesis. In this study, the sample size was small, and the resulting response rate was 21%. While this can be an acceptable response rate for online surveys, it did not provide enough responses to complete the inferential statistical analysis for research question two. In addition, 72.2% of respondents had an incremental mindset. There was not enough variation in the mindset type of the sample to evaluate the differences between a growth and fixed mindset. Understanding the underlying variables regarding the sample, including size and homogeneity, the null hypothesis cannot be accepted.

### **Discussion**

This discussion focuses on the impact an incremental mindset can have on leadership and school climate. The constructs of mindset, leadership, and climate interact within the school environment. A leader's mindset guides their behaviors and decisions. These actions and decisions define their leadership style. A principal's leadership style impacts the climate of the school building. A positive school climate has been linked to student achievement and success. Student achievement and success are the ultimate goal of any educator. In order to begin to understand the interactions of these constructs, it was necessary to examine the foundational piece of the constructs' interaction. This study focused on principal mindset. An awareness of building principals' mindset provides a

foundation for understanding how they can become more effective school leaders and how they can impact school climate.

These research findings showed that a majority of principals had an incremental mindset (also known as a growth mindset), with 72.2% of respondents scoring in this range. According to Dweck (2006), people with an incremental mindset believe that a person's intelligence can grow or change over time. People with an incremental mindset encourage learning and growth and believe that a person's potential is unknown. Dweck (2006) contended that the belief in the ability to grow intellect and talent is a cornerstone of the belief system of good teachers. In addition, good teachers are fascinated with the learning process and see themselves as lifelong learners (Dweck, 2006). This belief system relies on the implicit theories of teachers. Implicit theories are the foundation for how people make meaning of the world around them. It appears, based on the foundational literature and the results of this study, that educators have a propensity for incremental mindset. This inherent belief system may be the catalyst for why individuals enter the field of education. Regardless, this belief system sets the groundwork for principals to begin the work within their buildings to foster change that could result in an increase in student achievement.

While leadership theory has moved from trait-based models to contingency models to situational models of leadership, the current leadership research suggests that it is imperative to examine leaders' behaviors and actions in order to best understand their leadership style. Transformational leadership has emerged as a preferred leadership style for the 21st century (Anderson, 2017). Transformational leaders exhibit certain characteristics that embody an incremental mindset. A transformational leader is

inspirational, encouraging, and innovative (Anderson, 2017; Day et al., 2016; McCarley et al., 2016). The relationship between transformational leadership and incremental mindset is clear and has been documented in previous research.

Transformational leaders create a shared vision with their constituents because they believe that all parties have a stake in students' success. Hirschfeld et al. (2008) showed a correlation between mindset and certain leadership traits, such as motivation, cooperation, and confidence, all of which are necessary to lead a group of people to creating a shared vision. Transformational leaders encourage goal setting and inspire their stakeholders to continually work towards achieving those goals (Anderson, 2017; McCarley et al., 2016). These leaders tolerate mistakes as the growth and learning that occur is as important as the achievement of the goal itself (Anderson, 2017). People with an incremental mindset focus on the learning that occurs as one works towards achieving a goal. Finally, transformational leaders are innovative, encouraging risk taking as an opportunity to grow and change (Day et al., 2016). Growth is at the core of what a person with an incremental mindset believes. People with an incremental mindset believe that everyone, through application and effort, can learn and change (Dweck, 2006).

Transformational leadership is an emerging leadership style within the educational setting. Understanding the characteristics associated with this leadership style can better help principals improve their skill set. The link between leadership style and mindset is evident. Utilizing the results from this study, it is clear that the majority of building principals have an incremental mindset. With 72.2% of principals having an

incremental mindset, professional development and training can focus on assisting these leaders in developing the characteristics that will assist in moving their schools forward.

Understanding how an incremental mindset can influence leadership style positions principals to better understand how they can impact their school climate. McCarley et al. (2016) stated that successful schools have both quality leadership and a positive school climate. School climate encompasses all aspects of the school experience (Wang & Degol, 2016). Relationships among and between stakeholders, teaching, learning, school management, and physical environment are all components of school climate. Leadership influences school climate. In fact, principals who target specific behaviors have the ability to encourage and advance a more positive school climate (McCarley et al., 2016). Principals with a growth mindset can impact the climate within their buildings by being mindful of the actions and decisions that can promote a positive climate.

Because school climate is difficult to define, it is often examined with regards to four domains: relationships, teaching and learning, institutional environment, and safety (Cohen & Geier, 2010). All of these domains are impacted by the building principal. An incremental mindset provides the foundation for growth and change and fosters a belief system that encourages a positive school climate.

Each of the domains can be examined with regards to its connection to an incremental mindset. There are many types of relationships that exist in the school environment. Relationships are formed between principals and teachers, principals and students, teachers and students, teachers and parents, parents and principals, the community and the principal, and the community and the teachers. In addition,

relationships are formed among peer groups, such as students and teachers, which influence the climate of the building. While building principals cannot control all of these relationships, they can influence the manner in which interactions occur within these relationships. A principal with a growth mindset promotes incremental learning and achievement. This mindset fosters trust, which creates the optimal environment for student success and achievement. Supportive relationships increase student and teacher engagement and decrease delinquent student behavior (Creemers & Kyriakides, 2010; Hopson & Lee, 2011; Lynch et al., 2013; Van Eck et al., 2017).

Teaching and learning is the academic domain of school climate (Wang & Degol, 2016). A building leader's influence on this domain may be indirect; however, it is impactful. One must examine the effect sizes of leadership behaviors to fully understand a principal's impact on student achievement through the teaching and learning domain of school climate. Hattie (2015) focused on the impact of various leadership behaviors and beliefs in his article *High Impact Leadership*.

Table 11

*Effect Size of Leadership Behaviors That Impact Teaching and Learning*

Leader Behavior	Effect Size
Believes that major role is evaluating personal impact	0.91
Motivates everyone to work together to know and evaluate their impact	0.91
Learns in an environment that prioritizes high impact teaching and learning	0.84
Explicit in explanations of success	0.77
Sets appropriate levels of challenge	0.57

*Note.* Adapted from “High Impact Leadership,” by John Hattie, 2015, *Educational Leadership*, 72, p. 38.

Table 11 shows the above average effect sizes of leadership behavior related to teaching and learning on student success. Most of the behaviors in Table 11 relate to setting appropriate goals and progress monitoring the work towards these goals. Evaluation of progress towards a goal is an integral part of an incremental mindset. People with an incremental mindset tend to embrace their goals, regardless of the difficulties associated with the task, and work to achieve mastery, rather than simply completing the task (Dweck, 2000). Principals with an incremental mindset have the

mindset for developing these leadership behaviors that have a high effect on student achievement.

The school environment is defined as the physical surroundings of the school (Cohen & Geier, 2010). While building principals cannot always control the physical state of their building due to district budgetary constraints or the age of the building, they can make learning and growth a central part of what people see and feel in their building. A growth mindset is evident in a school building when teachers and students are motivated to set rigorous goals and attack challenging tasks. Evidence of learning is visible, through work samples and posted goals, in a building led by a principal with a growth mindset. The findings from this study documented that building principals have a growth mindset. Principals with a growth mindset already have the foundation for creating an environment conducive to learning and growth.

Finally, safety is the last domain that makes up school climate. Policies and procedures that promote a safe school environment are critical to a positive school climate. Principals set the policies and procedures that are acceptable within their building. Encouraging a safe and secure school environment requires very specific support from a building leader. Student engagement is a critical component of student success. Principals can increase student engagement by reducing students' feelings of victimization and bullying (Ripski & Gregory, 2009; Zullig et al., 2011). Typically, bullying behaviors and victimization occur because of differences between students. Building principals with an incremental mindset believe that people can change and grow over time. Encouraging positive peer relations requires understanding the differences between students and, in turn, helping students understand those differences. Principals



can promote fairness and equality for all in order to increase student's perceptions of safety and security at school. Principals with an incremental mindset believe that people's stereotyping behavior can change (Dweck, 2006). As the findings in this study showed, 72.2% of principals had an incremental mindset. These principals have the foundational belief system to implement programs and policies that encourage equity and diversity among students.

This study provided valuable information regarding the mindset type of building principals. Of the respondents, 72.2% of principals had an incremental, or growth, mindset. This mindset type has the ability to impact school climate through leader behaviors and decisions. Subsequently, school climate directly impacts student success and achievement.

While principal mindset was documented through question one in this study, the findings related to research question two were not significant. The second research question sought to examine the principals' mindset type with regards to various demographic characteristics, such as gender, level of education, experience, community type, building level, and building size. An ANOVA test was run on all characteristics, and no statistically significant findings were discovered. A Type II error is a concern with these results. The Future Research section of this chapter addresses possible methods to reduce the concern regarding the Type II error.

### **Significance of Study**

This study attempted to address the gap in the literature regarding mindset type and leadership. The research findings provided information that is significant to leadership theory, training of administrators, and principal professional development.

Given current leadership theory, it is clear that building principals cannot simply focus on the managerial aspects of their job if they want to increase student achievement. Transformational leadership has been endorsed as the critical leadership style for 21st century schools (Anderson, 2017). This leadership style encompasses many of the characteristics of an incrementalist. A transformational leader is inclusive, encourages risk taking as it relates to learning, and maintains high expectations for all constituents (Anderson, 2017; Day et al., 2016; McCarley et al., 2016). A leader with an incremental mindset avoids stereotyping, encourages the learning process, and expects all students to grow and learn (Dweck, 2006; Dweck et al., 1995). This study established that the majority of principals, 72.2%, have an incremental mindset. Understanding that principals have an incremental mindset adds to the body of literature on leadership theory. This knowledge allows for the development of building leaders based on their mindset. Where past research detailed how leadership and mindset are intertwined, this study provided baseline information specifically related to the mindset of building principals. Mindset is the foundation for how people make meaning of the world around them (Dweck, 2000). Based on the results of this study, principals possess the necessary mindset to create an engaging learning environment that engages all stakeholders and increases student achievement. While this doesn't mean that they will create this environment, this study did provide the information that they have the mindset to move in this direction.

The results of this study also proved to be significant for training and preparation programs for school administrators. In essence, these findings have implications for higher education institutions. In a report by The Wallace Foundation (2016), many

universities acknowledge that their principal preparation programs could be improved. In fact, according to this report, four critical areas for principal success, relationships and collaboration, instructional leadership, problem solving and decision making, and team building were rated among the five lowest areas of preparedness for principals (Davis, 2016). Colleges and universities that provide administrative preparation programs could utilize these survey results to generate programming for aspiring administrators. In creating new programming, it is vital for higher educational institutions to understand the mindset of their students. One area for change in programming might be how colleges and universities approach cultural sensitivity training. An incrementalist is more likely to avoid stereotyping behaviors. While teachers have reported that they have received training on teaching diverse students, only 39% of these teachers report that the training was valuable (Walker, 2011). This might be because programming focuses on academic understanding of these students, rather than the practical application practice that is needed to build skill in working with a diverse population. Understanding that the mindset already exists allows for more indepth teaching and learning to occur at this graduate level.

In addition, universities and colleges may look to increase and improve the clinical experiences of aspiring principals. It is understood that principals' abilities evolve and develop over the course of their career (Clifford, 2015). Because the results of this study show building principals already have an incremental mindset, colleges and universities may need to alter the way they deliver the clinical experience to their students. While it is acknowledged that this study surveyed principals that had completed their education and licensure, it would behoove higher educational institutions to pay

credence to the fact that their programs are producing principals with an incremental mindset. This knowledge affords them the opportunity to improve the practices that occur throughout the program. While 99% of university faculty agree that a vigorous clinical experience is a critical part of aspiring administrator training and 97% believe that mentorship should be a part of this experience, only 64% believe that high quality mentorship is a part of existing programs (Davis, 2016). Institutions of higher learning should take note of the mindset of the mentors they select to work with aspiring administrators. People with an incremental mindset embrace learning and value self-evaluation and reflection (Dweck, 2000). Too often, clinical experiences for aspiring administrators include projects and tasks that do not allow for growth and learning. The mentor administrator, typically selected by the mentee, assigns a low level, often clerical, task for the mentee to complete. This type of task does not allow aspiring administrators to fully understand the breadth and depth of their responsibilities should they move into this position. Selecting mentors with a growth mindset will allow for guidance that values the learning and growth that occurs when trying to achieve a more difficult task. Mentors that provide support and value the learning that occurs, rather than just the completion of the task, will allow for greater growth for the future building leader. Improving the clinical experience for pre-service administrators could position them to enter the field of administration better prepared to create the safe supporting environments that promote high levels of achievement for all students.

Finally, the findings of this study are significant for building principals on an individual level. The results of this study show that the majority of building principals have an incremental mindset. Knowing this allows for collaborative growth of

administrators as they navigate through the rigorous demands of their jobs. People with an incremental mindset tend to adopt mastery-approach goals, focusing on the learning and growth that occurs during the process of achieving the goal (Dinger & Dickhauser, 2013). In addition, incrementalists believe that everyone can grow and change (Dweck, 2006). This personal knowledge will allow building principals to identify their weaknesses and make informed decisions about how to improve. Principals should be mindful of the leadership practices cited by Hattie (2015) that have the highest effect size on student learning, such as personal evaluation, motivating stakeholders, and setting appropriate goals. Collaboration between building principals can provide the support necessary to continue working towards improvement. As principals improve their practice, they will affect the climate of the building in which they lead. School climate has been linked to student achievement and engagement (Day et al., 2016; Kelley et al., 2005; Leroy et al., 2007; McCarley et al., 2016). Becoming an effective school leader will impact student achievement.

### **Future Research**

Future research was always a consideration throughout this study. While this study sought to document the mindset type of building principals and examine this mindset type with regards to various demographic factors, it was always couched in the fact that mindset, leadership, and climate interact within the school environment to impact student achievement and success. In order to determine how mindset affects leadership and school climate, it was necessary to first examine how the variable mindset exists within the current school setting. This study documented principal mindset type, noting that 72.2% of principals had an incremental mindset and attempted to examine the

principals' mindset type across the demographic variables of gender, level of education, experience, community type, building level, and building size. While no statistically significant findings were noted through an ANOVA test on these variables, the lack of findings indicate the need for future research.

As the findings, or the lack of findings, revealed themselves, additional questions for future research emerged. First, future research may attempt to replicate the current study in an effort to reduce the concerns with the Type II error. The low response rate of 21% and the homogeneous sample may have impacted the findings with regard to research question two. If the study were replicated, it would be important to try to ensure a higher response rate to increase the likelihood that the sample is representative of the population. There are a couple of ways the researcher could attempt to alleviate this problem. One way might be to do the survey face to face. In an identified geographical area, the researcher could attend principal professional learning communities or professional development and request that the subjects complete the survey at that time. While online surveys tend to have a higher online response rate than postal surveys, it has been noted that one way to increase online participation is to for respondents to have a connection to the researcher (Saleh & Bista, 2017). This personal connection might increase response rates for the researcher. Another method of increasing response rates would be to contact colleges and universities and distribute the survey to newly licensed principals. This would allow for the sample to be drawn from a larger geographical area. While this would eliminate the demographic question of administrative experience, as all respondents would have little to no administrative experience, it could provide a larger

sample size that would allow for comparisons to be made with regards to other demographic characteristics.

This research also has implications for identifying teachers who might be viable candidates for administration. Another avenue for future research might be to distribute the *Theories of Intelligence Scale (Others Form)* to classroom teachers. As these research findings showed, the majority of principals have an incremental mindset. While it is not known if this mindset exists prior to completing administrative coursework, utilizing this survey with teachers could identify those that already possess this mindset in an effort to encourage teachers to move into administration.

In addition, future research could expand on the connection between Hattie's research on high impact leadership behaviors and principal mindset. As this study shows, 72.2% of principals have a growth mindset. Hattie (2015) identified specific leadership behaviors that have a high effect size on teaching and learning. Future research could look for a relationship between these high impact behaviors and a growth mindset. The *Theories of Intelligence Scale (Others Form)* could be utilized to determine a principal's mindset. In addition, questions could be added to the survey to determine if the principal engages in the high impact leadership behaviors established by Hattie. The study could then examine the resulting data to determine if there is a relationship between the mindset and the behaviors.

Finally, this study was initially conducted with the notion that future research would examine school climate in relation to the mindset type of building principals. Future studies could use the *Theories of Intelligence Scale (Others Form)* to identify specific principals with an incremental mindset and then conduct a climate survey with

building constituents. These data would provide the necessary information to begin to identify relationships between mindset and climate. This research could be conducted on a large scale, or it could begin with small case studies of individual buildings in order to build understanding of the interconnectedness of mindset and school climate.

Building leaders can impact student achievement. While oftentimes their influence is indirect, it is important to note that principals' actions, as well as their individual qualities, are important for their success (Day et al., 2016). A principal's mindset impacts their decisions and behaviors and provides the basis for their personality. Research that focuses on principal mindset can help to position existing and future building leaders to increase student achievement and engagement.

### **Conclusion**

This study used descriptive statistics to answer the research question do building principals have a growth or fixed mindset and then to examine this mindset with respect to the demographic characteristics of gender, level of education, experience, community type, building level, or building size. The population was building principals in Ohio, and a purposive sampling technique was utilized to identify a 10 county location within northeast Ohio in which to distribute the online survey to building principals. Results showed that 72.2% of building principals have an incremental mindset. No findings were revealed when an ANOVA test was run on the demographic characteristics of the respondents. A Type II error was a concern with the lack of findings due to the sample size and the homogeneous makeup of the sample. This study provided the data to document the mindset of building leaders in public schools.



This study proposed to address the gap in the literature related to mindset and leadership. Based on the survey results, 72.2% of principals had an incremental mindset. While no inferential statistical data were collected, this study provided valuable data related to the mindset of building principals. The results of this study provided the foundation for selecting professional development and training for existing administrators. In addition, the study has implications for identifying future administrators. Finally, future researchers can utilize the results of this study to examine mindset in relationship to climate.

Building leaders have the ability to target specific behaviors in order to improve the climate of their building and impact student success (McCarley et al., 2016). A person's mindset drives their decisions and behaviors. Leaders with an incremental mindset are positioned to improve the school climate through their actions and the environment they create. It is clear, that the constructs of mindset, leadership, and climate interact within the school environment in order to impact student success.

## References

- Anderson, M. (2017). Transformational leadership in education: A review of existing literature. *International Social Science Review*, 93(1), 1–13. Retrieved from <https://eps.cc.yosu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=124988167&site=ehost-live&scope=site>
- Andersen, S. C., & Nielsen, H. S. (2016, 10). Reading intervention with a growth mindset approach improves children's skills. *Proceedings of the National Academy of Sciences*, 113(43), 12111-12113. doi:10.1073/pnas.1607946113
- Bahník, Š., & Vranka, M. A. (2017). Growth mindset is not associated with scholastic aptitude in a large sample of university applicants. *Personality & Individual Differences*, 117, 139–143. <https://doi.org/10.1016/j.paid.2017.05.046>
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61(8), 1139-1160.
- Belli, G. (2008). *Nonexperimental quantitative research*. Retrieved from [https://www.k4health.org/sites/default/files/migrated\\_toolkit\\_files/0470181095-1.pdf](https://www.k4health.org/sites/default/files/migrated_toolkit_files/0470181095-1.pdf)
- Benbenishty, R., Astor, R. A., Roziner, I., & Wrabel, S. L. (2016). Testing the causal links between school climate, school violence, and school academic performance. *Educational Researcher*, 45(3), 197-206. doi:10.3102/0013189x16644603
- Berkowitz, R., Moore, H., Astor, R. A., & Benbenishty, R. (2017). A research synthesis of the associations between socioeconomic background, inequality, school climate, and academic achievement. *Review of Educational Research*, 87(2), 425-469. doi:10.3102/0034654316669821
- Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007, 01). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, 78(1), 246-263. doi:10.1111/j.1467-8624.2007.00995.x
- Brand, S., Felner, R. D., Seitsinger, A., Burns, A., & Bolton, N. (2008, 10). A large scale study of the assessment of the social environment of middle and secondary schools: The validity and utility of teachers' ratings of school climate, cultural pluralism, and safety problems for understanding school effects and school improvement. *Journal of School Psychology*, 46(5), 507-535. doi:10.1016/j.jsp.2007.12.001

- Burnette, J. L., Hoyt, C. L., Dweck, C. S., & Auster, G. L. (2017). Weight beliefs and messages: Mindsets predict body-shame and anti-fat attitudes via attributions. *Journal of Applied Social Psychology, 47*(11), 616–624. <https://doi.org/10.1111/jasp.12464>
- Carr, P. B., Dweck, C. S., & Pauker, K. (2012). “Prejudiced” behavior without prejudice? Beliefs about the malleability of prejudice affect interracial interactions. *Journal of Personality and Social Psychology, 103*(3), 452-471. doi:10.1037/a0028849
- Chase, P. A., Hilliard, L. J., Geldhof, G. J., Warren, D. J., & Lerner, R. M. (2014). Academic achievement in the high school years: The changing role of school engagement. *Journal of Youth and Adolescence, 43*(6), 884-896. doi:10.1007/s10964-013-0085-4
- Claro, S., Paunesku, D., & Dweck, C. S. (2016). Growth mindset tempers the effects of poverty on academic achievement. *Proceedings of the National Academy of Sciences, 113*(31), 8664-8668. doi:10.1073/pnas.1608207113
- Clifford, M. (2015). *Building leadership talent through performance evaluation* [Educator Talent Management Report]. Retrieved from American Institutes for Research website: [https://www.air.org/sites/default/files/Building%20Leadership%20Performance%20Through%20Performance%20Evaluation\\_Jan%202015.pdf](https://www.air.org/sites/default/files/Building%20Leadership%20Performance%20Through%20Performance%20Evaluation_Jan%202015.pdf)
- Cohen, J., & Geier, V. K. (2010). *School Climate Research Summary: January 2010*. New York, NY.
- Creemers, B., & Kyriakides, L. (2010). School factors explaining achievement on cognitive and affective outcomes: Establishing a dynamic model of educational effectiveness. *Scandinavian Journal of Educational Research, 54*(3), 263–294. <https://doi.org/10.1080/00313831003764529>
- Crosnoe, R., Johnson, M. K., & Elder, G. H. (2004, 01). Intergenerational bonding in school: The behavioral and contextual correlates of student-teacher relationships. *Sociology of Education, 77*(1), 60-81. doi:10.1177/003804070407700103
- Davis, J. (2016). *Improving university principal preparation programs: Five themes from the field* (The Wallace Foundation Report). Retrieved from The Wallace Foundation website: <https://www.wallacefoundation.org/knowledge-center/pages/improving-university-principal-preparation-programs.aspx>
- Day, C., Gu, Q., & Sammons, P. (2016). The impact of leadership on student outcomes. *Educational Administration Quarterly, 52*(2), 221–258. <https://doi.org/10.1177/0013161X15616863>

- Delpit, L. (2006). Lessons from teachers. *Journal of Teacher Education*, 57(3), 220–231. <https://doi.org/10.1177/0022487105285966>
- Demant, J., & Houtte, M. V. (2012). Teachers' attitudes and students' opposition. School misconduct as a reaction to teachers' diminished effort and affect. *Teaching and Teacher Education*, 28(6), 860-869. doi:10.1016/j.tate.2012.03.008
- Dinger, F. C., & Dickhäuser, O. (2013). Does implicit theory of intelligence cause achievement goals? Evidence from an experimental study. *International Journal of Educational Research*, 61, 38-47. doi:10.1016/j.ijer.2013.03.008
- Dweck, C. S. (2000). *Essays in social psychology. Self-theories: Their role in motivation, personality, and development*. New York, NY: Psychology Press.
- Dweck, C. S. (2003). Ability conceptions, motivation, and development. *British Journal of Educational Psychology* (Special Issue: Motivation and Development).
- Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York: Random House.
- Dweck, C. S. (2017). The journey to children's mindsets-and beyond. *Child Development Perspectives*, 11(2), 139-144. doi:10.1111/cdep.12225
- Dweck, C. S., Chiu, C. & Hong, Y. (1995). Implicit theories: Elaboration and extension of the model. *Psychological Inquiry*, 6(4), 322. <https://doi.org/10.1207/s15327965pli0604pass>
- Ehrlinger, J., Mitchum, A. L., & Dweck, C. S. (2016). Understanding overconfidence: Theories of intelligence, preferential attention, and distorted self-assessment. *Journal of Experimental Social Psychology*, 63, 94–100. <https://doi.org/10.1016/j.jesp.2015.11.001>
- El-Alayli, A., & Baumgardner, A. (2003). If at first you don't succeed, what makes you try, try again? Effects of implicit theories and ability feedback in a performance-oriented climate. *Self and Identity*, 2(2), 119-135. doi:10.1080/15298860309031
- Erdley, C., Cain, K., Loomis, C., Dumas-Hines, F., & Dweck, C. S. (1997). The relations among children's social goals, implicit personality theories and response to social failure. *Developmental Psychology*, 33, 263-272.
- Erdley, C. A., & Dweck, C. S. (1993). Children's implicit personality theories as predictors of their social judgments. *Child Development*, 64(3), 863–878. <https://doi.org/10.2307/1131223>

- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5, 1-4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Fowler, F. J. (1988). *Survey research methods*. Thousand Oaks, CA: Sage.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education*. New York, NY: McGraw-Hill.
- Froehlich, L., Martiny, S. E., Deaux, K., Goetz, T., & Mok, S. Y. (2016, 04). Being smart or getting smarter: Implicit theory of intelligence moderates stereotype threat and stereotype lift effects. *British Journal of Social Psychology*, 55(3), 564-587. doi:10.1111/bjso.12144
- Gutshall, C. A. (2013, 10). Teachers' mindsets for students with and without disabilities. *Psychology in the Schools*, 50(10), 1073-1083. doi:10.1002/pits.21725
- Haimovitz, K., & Dweck, C. S. (2016). Parents' views of failure predict children's fixed and growth intelligence mind-sets. *Psychological Science*, 27(6), 859-869. doi:10.1177/0956797616639727
- Hattie, J. (2015). High impact leadership. *Educational Leadership*, 72(5), 36-40. Retrieved from <https://eps.cc.ysu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=100847843&site=ehost-live&scope=site>
- Hirschfeld, R. R., Jordan, M. H., Thomas, C. H., & Feild, H. S. (2008). Observed leadership potential of personnel in a team setting: Big five traits and proximal factors as predictors. *International Journal of Selection & Assessment*, 16(4), 385-402. <https://doi.org/10.1111/j.1468-2389.2008.00443.x>
- Hong, Y., Chiu, C., Dweck, C. S., Lin, D. M., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77(3), 588-599. doi:10.1037//0022-3514.77.3.588
- Hopson, L. M., & Lee, E. (2011, 11). Mitigating the effect of family poverty on academic and behavioral outcomes: The role of school climate in middle and high school. *Children and Youth Services Review*, 33(11), 2221-2229. doi:10.1016/j.childyouth.2011.07.006
- House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *The Leadership Quarterly*, 7(3), 323-352.
- Ireh, M. & Bailey, J. (1999). A study of superintendents' change leadership styles using the situational leadership model. *American Secondary Education*, 27(4), 22-32.

- Johns, H. E., & Moser, H. R. (1989). From trait to transformation: The evolution of leadership theories. *Education, 110*(1), 115. Retrieved from <https://eps.cc.yosu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=4717838&site=ehost-live&scope=site>
- Johnson, B. (2001). Towards a new classification of nonexperimental quantitative research. *Educational Researcher, 30*(2), 3-13.
- Kam, C., Risavy, S. D., Perunovic, E., & Plant, L. (2014). Do subordinates formulate an impression of their manager's implicit person theory? *Applied Psychology: An International Review, 63*(2), 267–299. <https://doi.org/10.1111/j.1464-0597.2012.00521.x>
- Kelley, R. C., Thornton, B., & Daugherty, R. (2005). Relationships between measures of leadership and school climate. *Education, 126*(1), 17–25. Retrieved from <https://eps.cc.yosu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=18359976&site=ehost-live&scope=site>
- Kivlighan, D. M., Abbas, M., Gloria, A. M., Aguinaga, A., Frank, C., & Frost, N. D. (2018). Are belongingness and hope essential features of academic enhancement groups? A psychosociocultural perspective. *Journal of Counseling Psychology, 65*(2), 204-213. doi:10.1037/cou0000266
- Leondari, A., & Gialamas, V. (2002, 04). Implicit theories, goal orientations, and perceived competence: Impact on students' achievement behavior. *Psychology in the Schools, 39*(3), 279-291. doi:10.1002/pits.10035
- Leroy, N., Bressoux, P., Sarrazin, P., & Trouilloud, D. (2007, 12). Impact of teachers' implicit theories and perceived pressures on the establishment of an autonomy supportive climate. *European Journal of Psychology of Education, 22*(4), 529-545. doi:10.1007/bf03173470
- Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype formation and endorsement: The role of implicit theories. *Journal of Personality & Social Psychology, 74*(6), 1421–1436. <https://doi.org/10.1037/0022-3514.74.6.1421>
- Lynch, A. D., Lerner, R. M., & Leventhal, T. (2013). Adolescent academic achievement and school engagement: An examination of the role of school-wide peer culture. *Journal of Youth and Adolescence, 42*(1), 6-19. doi:10.1007/s10964-012-9833-0
- MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education, 12*(1), 73–84. <https://doi.org/10.1080/13603120701576241>

- Mangels, J. A., Butterfield, B., Lamb, J., Good, C., & Dweck, C. S. (2006). Why do beliefs about intelligence influence learning success? A social cognitive neuroscience model. *Social Cognitive & Affective Neuroscience*, 1(2), 75–86. <https://doi.org/10.1093/scan/nsl013>
- Martin, A. J. (2015). Implicit theories about intelligence and growth (personal best) goals: Exploring reciprocal relationships. *British Journal of Educational Psychology*, 85(2), 207-223. doi:10.1111/bjep.12038
- Maxwell S., Reynolds K.J., Lee, E., Subasic, E., & Bromhead, D. (2017). The impact of school climate and school identification on academic achievement: Multilevel modeling with student and teacher data. *Frontiers in Psychology*. 8:2069. doi: 10.3389/fpsyg.2017.02069
- McCarley, T. A., Peters, M. L., & Decman, J. M. (2016). Transformational leadership related to school climate. *Educational Management Administration & Leadership*, 44(2), 322–342. Retrieved from <https://doi.org/10.1177/1741143214549966>
- McClesky, J. A. (2014). Situational, transformational, and transactional leadership and leadership development. *Journal of Business Studies Quarterly*, 5(4), 117-130.
- McCollum, D. L., & Kajs, L. T. (2009). A confirmatory factor analytic study of the goal orientation theory of motivation in educational leadership. *Educational Research Quarterly*, 33(1), 3–17. Retrieved from <https://eps.cc.ysu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=43913033&site=ehost-live&scope=site>
- Ng, B. (2018). The neuroscience of growth mindset and intrinsic motivation. *Brain Sciences*, 8(2), 20. doi:10.3390/brainsci8020020
- Niiya, Y., Brook, A., & Crocker, J. (2010). Contingent self-worth and self-handicapping: Do incremental theorists protect self-esteem? *Self & Identity*, 9(3), 276–297. Retrieved from <https://doi.org/10.1080/15298860903054233>
- Nulty, D. (2008). The adequacy of response rates to online and paper surveys: What can be done? *Assessment & Evaluation in Higher Education*, 33(3), 301–314. <https://doi.org/10.1080/02602930701293231>
- O'Malley, M., Voight, A., Renshaw, T. L., & Eklund, K. (2015). School climate, family structure, and academic achievement: A study of moderation effects. *School Psychology Quarterly*, 30(1), 142-157. doi:10.1037/spq0000076
- Ohio Department of Education. (2016). *Ohio Educational Directory System*. Retrieved from <http://education.ohio.gov/Topics/Data/Ohio-Educational-Directory-System-OEDS>

- Ohio Department of Education. (2018). *Principal licensure*. Retrieved from <http://education.ohio.gov/Topics/Teaching/Licensure/Apply-for-Certificate-License/Administrator-Licenses>
- Paunesku, D., Walton, G. M., Romero, C., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015). Mind-set interventions Are a scalable treatment for academic underachievement. *Psychological Science, 26*(6), 784-793. doi:10.1177/0956797615571017
- Peguero, A. A., & Bracy, N. L. (2014). School order, justice, and education: Climate, discipline practices, and dropping out. *Journal of Research on Adolescence (Wiley-Blackwell), 25*(3), 412–426. <https://doi.org/10.1111/jora.12138>
- Rattan, A., & Georgeac, O. A. (2017). Understanding intergroup relations through the lens of implicit theories (mindsets) of malleability. *Social and Personality Psychology Compass, 11*(4). doi:10.1111/spc3.12305
- Rattan, A., Good, C., & Dweck, C. S. (2012). “It's ok — Not everyone can be good at math”: Instructors with an entity theory comfort (and demotivate) students. *Journal of Experimental Social Psychology, 48*(3), 731-737. doi:10.1016/j.jesp.2011.12.012
- Rattan, A., Savani, K., Chugh, D., & Dweck, C. S. (2015). Leveraging mindsets to promote academic achievement. *Perspectives on Psychological Science, 10*(6), 721-726. doi:10.1177/1745691615599383
- Reynolds, K. J., Lee, E., Turner, I., Bromhead, D., & Subasic, E. (2017). How does school climate impact academic achievement? An examination of social identity processes. *School Psychology International, 38*(1), 78-97. doi:10.1177/0143034316682295
- Rheinschmidt, M. L., & Mendoza-Denton, R. (2014). Social class and academic achievement in college: The interplay of rejection sensitivity and entity beliefs. *Journal of Personality and Social Psychology, 107*(1), 101-121. doi:10.1037/a0036553
- Ripski, M. B., & Gregory, A. (2009, 09). Unfair, unsafe, and unwelcome: Do high school students' perceptions of unfairness, hostility, and victimization in school predict engagement and achievement? *Journal of School Violence, 8*(4), 355-375. doi:10.1080/15388220903132755
- Robins, R. W., & Pals, J. L. (2002, 10). Implicit self-theories in the academic domain: Implications for goal orientation, attributions, affect, and self-esteem change. *Self and Identity, 1*(4), 313-336. doi:10.1080/15298860290106805



- Şahin, S. (2011). The relationship between instructional leadership style and school culture (İzmir sase). *Educational Sciences: Theory & Practice*, *11*(4), 1920–1927. Retrieved from <https://eps.cc.yzu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=70399589&site=ehost-live&scope=site>
- Saleh, A., & Bista, K. (2017). Examining factors impacting online survey response rates in educational research: Perceptions of graduate students. *Journal of MultiDisciplinary Evaluation*, *13*(29), 63-74.
- Salkind, N. J. (2014). *Statistics for people who (think they) hate statistics* (5th ed.). Thousand Oaks, CA: SAGE.
- Schmidt, J. A., Shumow, L., & Kackar-Cam, H. Z. (2017). Does mindset intervention predict students' daily experience in classrooms? A comparison of seventh and ninth graders' trajectories. *Journal of Youth and Adolescence*, *46*(3), 582-602. doi:10.1007/s10964-016-0489-z
- Sebastian, J. & Allensworth, E. (2012). The influence of principal leadership on classroom instruction and student learning: A study of mediated pathways to learning. *Educational Administration Quarterly*, *48*(4), 626-663.
- Sevincer, A. T., Kluge, L., & Oettingen, G. (2014). Implicit theories and motivational focus: Desired future versus present reality. *Motivation and Emotion*, *38*(1), 36-46. doi:10.1007/s11031-013-9359-0
- Shapcott, S., Davis, S., & Hanson, L. (2018). The jury is in: Law schools foster students' fixed mindsets. *Law & Psychology Review*, *42*, 1–33. Retrieved from <https://eps.cc.yzu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=130640736&site=ehost-live&scope=site>
- Snyder, K. E., Malin, J. L., Dent, A. L., & Linnenbrink-Garcia, L. (2014). The message matters: The role of implicit beliefs about giftedness and failure experiences in academic self-handicapping. *Journal of Educational Psychology*, *106*(1), 230-241. doi:10.1037/a0034553
- Stewart, E. B. (2008). School structural characteristics, student effort, peer associations, and parental involvement: The influence of school- and individual-level factors on academic achievement. *Education and Urban Society*, *40*(2), 179-204.
- Sulak, T. N. (2016). School climate and academic achievement in suburban schools. *Education and Urban Society*, *48*(7), 672-684. doi:10.1177/0013124514541465

- Tapola, A., & Niemivirta, M. (2008). The role of achievement goal orientations in students' perceptions of and preferences for classroom environment. *British Journal of Educational Psychology*, 78(2), 291-312. doi:10.1348/000709907x205272
- Townsend, T., Acker-Hocevar, M., Ballenger, J., & Place, A. W. (2013). Voices from the field: What have we learned about instructional leadership? *Leadership and Policy in Schools*, 12(1), 12-40. doi:10.1080/15700763.2013.766349
- Trochim, W. M., & Donnelly, J. P. (2008). *Research methods knowledge base*. Mason, OH: Atomic Dog/Cengage Learning.
- U.S. Department of Education, National Center for Education Statistics. (2018). *Bachelor's, master's, and doctor's degrees conferred by postsecondary institutions, by field of study: Selected years, 1970-71 through 2015-16*. Retrieved from [https://nces.ed.gov/programs/digest/d17/tables/dt17\\_318.20.asp](https://nces.ed.gov/programs/digest/d17/tables/dt17_318.20.asp)
- Van Eck, K., Johnson, S. R., Bettencourt, A., & Johnson, S. L. (2017). How school climate relates to chronic absence: A multi-level latent profile analysis. *Journal of School Psychology*, 61, 89-102. <https://doi.org/10.1016/j.jsp.2016.10.001>
- Van Maele, D., & Van Houtte, M. (2011). The quality of school life: Teacher-student trust relationships and the organizational school context. *Social Indicators Research*, 100(1), 85-100. doi:10.1007/s11205-010-9605-8
- Vroom, V. H., & Jago, A. G. (2007). The role of the situation in leadership. *American Psychologist*, 62(1), 17-24. Retrieved from <https://doi.org/10.1037/0003-066X.62.1.17>
- Walker, T. (2011). Closing the culture gap. *NEA Today for Future Educators*.
- Wang, M., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review*, 28(2), 315-352. doi:10.1007/s10648-015-9319-1
- Williams, E. (2009). Evaluation of a school systems plan to utilize teachers' perceptions of principal leadership to improve student achievement. *Challenge*, 15(1). Retrieved from: <http://digitalcommons.auctr.edu/challenge/vol15/iss1/3>
- Winterman, K. G. (2008). Cultural change: One school's journey towards educational excellence. *International Journal of Applied Educational Studies*, 3(1), 74-81. Retrieved from <https://eps.cc.yzu.edu:8443/login?url=https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,uid&db=a9h&AN=36292596&site=ehost-live&scope=site>

- Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314. doi:10.1080/00461520.2012.722805
- Yeager, D. S., Romero, C., Paunesku, D., Hulleman, C. S., Schneider, B., Hinojosa, C., . . . Dweck, C. S. (2016). Using design thinking to improve psychological interventions: The case of the growth mindset during the transition to high school. *Journal of Educational Psychology*, 108(3), 374-391. doi:10.1037/edu0000098
- Ying-yi Hong, Dweck, C. S., Chi-yue Chiu, Lin, D. M.-S., & Wan, W. (1999). Implicit theories, attributions, and coping: A meaning system approach. *Journal of Personality & Social Psychology*, 77(3), 588–599. <https://doi.org/10.1037/0022-3514.77.3.588>
- Zaccaro, S. J. (2007). Trait-based perspectives of leadership. *American Psychologist*, 62(1), 6–16. <https://doi.org/10.1037/0003-066X.62.1.6>
- Zhao, Y. (2016). From deficiency to strength: Shifting the mindset about education inequality. *Journal of Social Issues*, 72(4), 720-739. doi:10.1111/josi.12191
- Zullig, K. J., Huebner, E. S., & Patton, J. M. (2011). Relationships among school climate domains and school satisfaction. *Psychology in the Schools*, 48(2), 133-145. doi:10.1002/pits.20532

## APPENDICES

## APPENDIX A

### THEORIES OF INTELLIGENCE SCALE

This portion of the questionnaire has been designed to investigate ideas about intelligence. There are no right or wrong answers. We are interested in your ideas.

Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by writing the number that corresponds to your opinion in the space next to each statement.

1	2	3	4	5	6
Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree

\_\_\_\_\_ 1. People have a certain amount of intelligence, and they can't really do much to change it.

\_\_\_\_\_ 2. A person's intelligence is something about them that they can't change very much.

\_\_\_\_\_ 3. No matter who someone is, they can significantly change their intelligence level.

\_\_\_\_\_ 4. To be honest, someone can't really change how intelligent they are.

\_\_\_\_\_ 5. A person can always substantially change how intelligent they are.

\_\_\_\_\_ 6. A person can learn new things, but they can't really change their basic intelligence.

\_\_\_\_\_ 7. No matter how much intelligence a person has, they can always change it quite a bit.

\_\_\_\_\_ 8. A person can change even their basic intelligence level considerably.

## APPENDIX B

### DEMOGRAPHIC QUESTIONS ADDED TO THE SURVEY BY THE RESEARCHER

#### Demographic Information

Please indicate your gender:

- Male
- Female

What is the highest degree you have completed?

- Bachelor's degree
- Master's degree
- Doctorate

Please indicate your years of experience in **administration**:

- 0-4
- 5-10
- 11-15
- 16-20
- 20+

Please identify the grade level of your building:

- Elementary
- Middle/Junior High
- High School

Which best describes your school's location?

- Urban
- Suburban
- Rural

What is your school's population?

- Less than 200 students
- 201 - 500 students
- 501 - 800 students
- 801 - 1100 students
- 1101 - 1500 students
- 1501 - 2000 students
- 2001+ students

## APPENDIX C

### ONLINE CONSENT

Greetings! I am a doctoral student at Youngstown State University, and I am completing my dissertation research in the field of mindset and leadership. I would like to invite you to participate in a short online survey about mindset. You are receiving this email because you are a head principal in a public school in northeast Ohio. The survey will only take about 10 minutes to complete, and your participation would be greatly appreciated.

The purpose of this study is to document building principals' growth or fixed mindset and examine it in relationship to various demographic variables, such as gender, level of education, experience, community type, building level, and building size. If you agree to take part in this study, you will be asked to complete a set of 6 demographic questions and complete an 8 item questionnaire on mindset.

The 14 item survey will only take about 10 minutes to complete.

You may not directly benefit from the research; however, we hope that your participation in the study will provide meaningful information with regards to building leaders' mindset. This information will provide a foundation for future research regarding mindset and leadership.

We believe this study has no known risks; however, as with any online activity the risks related to confidentiality are always possible. To the best of our ability, your answers in this study will remain confidential. We will minimize any risks by using the secure, password protected website of SurveyMonkey. The online survey will not collect personal information, such as emails or computer IP addresses. Your answers will be sent to and stored on a password protected link. No one, including the researcher will know if you participated in the study.

Your participation in this study is completely voluntary and you can withdraw at any time.

The online survey link will be open for two weeks. If you have questions about this project or have a problem with the survey, you may contact the researcher, Melissa Mlakar, at [REDACTED] or the Doctoral Chair, Dr. Jane Beese, at 330-941-2236. If you have questions about your rights as a research participant, please contact the Office of Research Services at YSUIRB@ysu.edu or 330-941-2377.

Thank you for your participation!

APPENDIX D

IRB APPROVAL LETTER



**YOUNGSTOWN  
STATE  
UNIVERSITY**

One University Plaza, Youngstown, Ohio 44555

Office of Research  
330.941.2377

October 23, 2019

Dr. Jane Beese, Principal Investigator  
Ms. Melissa Mlakar, Co-investigator  
Department of Counseling, School Psychology & Educational Leadership  
UNIVERSITY

RE: HSRC PROTOCOL NUMBER: 033-2019  
TITLE: Principals' Mindset Type: A Descriptive Study


Dear Dr. Beese and Ms. Mlakar:

The Institutional Review Board has reviewed the abovementioned protocol and determined that it is exempt from full committee review based on a DHHS Category 2 exemption.

Any changes in your research activity should be promptly reported to the Institutional Review Board and may not be initiated without IRB approval except where necessary to eliminate hazard to human subjects. Any unanticipated problems involving risks to subjects should also be promptly reported to the IRB.

The IRB would like to extend its best wishes to you in the conduct of this study.

Sincerely,

  
Dr. Greg Dillon  
Interim Associate Vice President for Research  
Authorized Institutional Official

GD:cc

c: Dr. Jake Protivnak, Chair  
Department of Counseling, School Psychology & Educational Leadership