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**The Relationship between Public School Principals’
Authentic Leadership and Implicit Theory of Intelligence.**

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The Relationship between Public School Principals' Authentic Leadership and the Principals' Implicit Theory of Intelligence

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Public school principals are facing increasingly more demands and stressful environments. These leaders need tools to help with the overwhelming workload and building a healthy supportive school community. Principals require easy-to-access skills to build healthy strategies for working with these chaotic environments, which could include a growth mindset and authentic qualities of self-awareness, balanced processing, moral virtue and relational transparency.

The purpose of this study was to research the relationship between Montana K-12 public school principals' authentic leadership theory and their implicit theories of intelligence. This non-experimental quantitative study utilized a survey method to gather self-report information. The voluntary sample included 112 participants from a population of 474 public school principals during the spring of 2019. A Spearman's Rho was employed because ordinal data were collected from two instruments, the Authentic Leadership Questionnaire and The Theories of Intelligence Scale. The results demonstrated a small positive correlation between growth mindset and the authentic leadership construct.

Future research should include staff perception data that focuses on the principal's mindset and authentic leadership skills. Research should also continue to study the implicit theories of intelligence and authentic leadership theory with principals as there has been little done to investigate a strong growth mindset and how it relates to strong authentic leadership skills.

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The Relationship between Public School Principals' Authentic Leadership and the Principals' Implicit Theory of Intelligence.

Chapter One: Introduction

Leadership has had positive effects on student learning (Dutta & Sahney, 2016; Leithwood et al., 2004), but schools are increasingly becoming stressful environments and administrators are expected to create a positive culture that can cope with taxing expectations. “Much of the responsibility for realizing our society’s vision of greater equity is vested in our schools. Consequently, higher expectations are especially brought to bear on those who educate our children” (Tschannen-Moran, 2004, p. 13). Administrators are pulled in many directions and overworked (Combs et al., 2009; Fraser & Brock, 2006; Friedman, 2002). Education currently has many challenges; racial disparities can be found in test scores and graduation rates, there is an increasing variation in the socioeconomic status of students – the gap is getting larger between the have and the have nots, and school staff have less resources to access (DuFour & Marzano, 2011). In addition to the various community challenges, new policies for schools to incorporate are often required. Every Student Succeeds Act, Response to Intervention, Common Core, Positive Behavior Intervention and Supports, Multi-Tiered Systems of Support, and Professional Learning Communities are all examples of industrious programs that schools are instructed to incorporate by district administration into their curriculum and in collaboration with colleagues. The state level has also developed policies for schools over the past two decades that required principal leadership in order to be successful (Manna, 2015). Park and Jeong (2013) found that teachers tended to resist government programs more and that it was up to the principal to help implement and ease the transition of new programs. Other worries for principals include: an increase in parent demands (Fraser & Brock, 2006; Friedman, 2002; Wells, 2013), teachers

who are not performing well (Combs et al., 2009; Fraser & Brock, 2006; Friedman, 2002), the pressure of student outcomes on accountability standards (Cohen et al., 2009; Combs et al., 2009; Wells, 2013), and increased paperwork (West et al., 2014). In addition, poor school attendance has affected academics (Morrissey et al., 2014). Student outcomes are crucial, and principals must prioritize what is important for this to always be the focus.

Prioritization of tasks is relevant for an administrator to understand what needs to be addressed, what can wait, and what can be avoided. How is a school leader supposed to know what is critical and what is not? Sogunro (2012) described that principals needed to say no to “time-robbing tasks” as one way to help combat stress that principals experienced. Covey (1989) developed a time management matrix that prioritizes tasks into four quadrants by urgency and importance (see Figure 1). He stated these quadrants can be applied to personal and professional lives and that Quadrant II, which is most important, was often neglected. Covey’s theory focused on self-awareness. The more a leader is self-aware, the better that person is at recognizing what is urgent, what is important, and what does not need attention. Another requirement for appropriately choosing a quadrant is an understanding of the work environment. School staff can achieve goals and set priorities when everyone understands the commitments their school makes. Trust is a necessary component when building a culture that supports common goals. “Principals and teachers need to build trusting relationships with students and parents in order to accomplish their essential goal of fostering student achievement and equipping students for citizenship” (Tschannen-Moran, 2004, p. 135).

Figure 1

The Time Management Matrix

	Urgent	Not Urgent
Important	I ACTIVITIES: Crises Pressing problems Deadline-driven projects	II ACTIVITIES: Prevention PC activities Relationship building Recognizing new opportunities Planning, recreation
Not Important	III ACTIVITIES: Interruptions, some calls Some mail, some reports Some meetings Proximate, pressing matters Popular activities	IV ACTIVITIES: Trivia, busy work Some mail Some phone calls Time wasters Pleasant activities

Note. From *The Seven Habits of Highly Effective People*, by Covey, S. R., 1989, Simon & Schuster, p. 151. Reprinted with permission (see Appendix A).

Student achievement happens when teachers feel supported and trusted (Forsyth et al., 2011; Wahlstrom & Louis, 2008). Teachers who believed their administration advocated for them and for their students felt more suited to handle challenges and more comfortable when they needed to approach a colleague or principal for support (Coleman, 2012). For administrators to offer this kind of assistance, they themselves must be physically and mentally able to meet the challenges. Boyland (2011) discovered that, "... most of the experienced principals indicate more stress now than in previous years" (p. 6). This author was concerned with the culmination of stress for principals and how that affected their physical and mental health over time. West et al. (2014) found in their study that principals handled stress, autonomy, and accountability dissimilar with different superintendents who promoted contradictory leadership theories. Another outcome West and colleagues discovered was that the principal position experienced stress, no matter who led the district. This stress caused incredible harm to these leaders, which then reflected in their work. Two years after completion

of the first study, six principals remained in their positions and the other 11 had left. Principals, "... were concerned about the effects the stress was having on their physical and mental health, yet they said they were too tired and overworked to address these issues" (West et al., 2014, p. 388).

Authentic leadership furnishes tools for a principal to work with the challenges that are inherent in education today; stress, building trusting cultures to support common goals, and an awareness of self. This form of leadership also provides a way for principals to lead by recognizing their core beliefs, strengths, and weaknesses (Avolio & Gardner, 2005; Diddams & Chang, 2012; Gardner & Schermerhorn, 2004). The study of authentic leaders within the school setting is still a relatively new phenomenon (Duignan, 2014; Gardner, Cogliser, et al., 2011; Ilies et al., 2005). Research began within the business community and has since moved into other areas, including education. As Avolio and Gardner (2005) argued, authentic leadership is considered the root of all positive forms of leadership, therefore one that is vital to leadership today. Although there is no consistent construct for this theory (Avolio & Gardner, 2005; Randolph-Seng & Gardner, 2012; Shamir & Eilam, 2005; Walumbwa et al., 2008), Avolio and Gardner focused on authenticity encompassing four components; self-awareness, balanced processing, moral virtue, and relational transparency.

Because of the trying times that administrators face, there is a need for balance and well-being among themselves and their staff (Sogunro, 2012). Authentic leadership has built trust among staff (Avolio & Gardner, 2005; Bird et al., 2009; Bird et al., 2012), which is important for staff to feel supported and willing to take risks. Authentic leadership also assisted in developing a positive culture (Bird et al., 2012; Duignan, 2014; Woolley et al., 2011), which helped to create space for people to seek guidance from their coworkers and principal, support students, and work

on self-awareness. Ilies et al. (2005) stated, "... authenticity on the part of leaders influences not only leaders' own well-being, but also influences their followers' well-being and self-concept" (p. 374). Weiss et al. (2018) concluded that the more an authentic leader interacted and collaborated with his or her employees, the better the leader's mental health and well-being. These authors also found that a leader who did not display authentic skills tended to avoid interactions with employees and if there was collaboration, leader mental health did not improve. Authenticity has been linked with well-being (Gardner, Avolio, et al., 2005; Weiss et al., 2018; Wood et al., 2008), which is an important component of successful working and living.

To enhance skills, one must continually be willing to work on becoming authentic (Walumbwa et al., 2008). Leading with authenticity can be a scary endeavor (Branson, 2007) because one must be willing to comprehend all information about the self, whether it is positive or negative (Gardner, Avolio, et al., 2005). Principals must be willing to address their deficiencies with grace, build true relationships, recognize all aspects of a disagreement, and work within an ethical demeanor (Avolio & Gardner, 2005; Avolio, Walumbwa, & Weber, 2009; Neider & Schriesheim, 2011). Bennis (1997) made an excellent point about developing what he called self-knowledge. He suggested that leaders envelop themselves with people they trust to receive "reflective back talk" or feedback. Bennis also argued that, "it's not only being able to reflect on an experience, it's being able to see what you've contributed to it" (p. 188). In other words, leaders need to reflect on feedback and understand their role in it. If an administrator believes he or she cannot improve in any one or more of these arenas, the process of building authenticity is doomed (Avolio & Gardner, 2005).

One theory that has not been studied in relationship to authentic leadership is the implicit theories of intelligence. Elliott and Dweck (1988) created a framework for understanding how

behavior is related to intelligence. Two assumptions describe thoughts about intelligence: a fixed mindset, or entity theory, which holds that each person has a set amount of intelligence that cannot change (Dweck, 2000; Dweck 2006). The second is growth mindset, or incremental theory, which asserts each person can improve upon tasks and learn new skills or knowledge through practice and hard work (Dweck, 2000, 2006). One of the many differences between these beliefs is how individuals approach challenges. People with a fixed mindset believe if they must work at something, they are not smart. Effort means that they have inadequate abilities to solve the problem and that failure is about them and not the task (Blackwell et al., 2007; Dweck, 2000, 2006). People with a growth mindset believe that a failure is something to learn from and grow upon. Effort and perseverance are what develops ability. Over the years it has been found that implicit theories can be applied to more domains than just intelligence (Dweck, Hong, & Chiu, 1993; Erdley & Dweck, 1993). But how does this relate to authentic leadership? Leaders need tangible tools they can access to improve their abilities. Authentic leadership and growth mindset can be helpful theories for administration to learn more about. This study explored the idea that growth mindset can be beneficial in building one's authentic skills.

Problem Statement

Principals can create school cultures that benefit students, staff, and families (Niaz, 2017). Staff and students look to the principal for guidance, which is why it is important for leaders to be at their best. A healthy school culture is a place where students learn and educators feel supported in their teaching (Engel et al., 2008). There is a lot required of principals. Engel and colleagues (2008) found that, "it is important for leaders to communicate clearly on their visions and expectations and, at the same time, stimulate and value teacher initiative, and provide support and feedback" (p. 171). This study addressed the relationship between authentic

leadership and implicit theories of intelligence as a way to find tools to help principals become their best so they can support their schools.

Purpose Statement

The purpose of this correlational study was to better understand the relationship between a principals' implicit theory of intelligence and his or her authentic leadership, which included four key components: self-awareness, moral virtue, balanced processing, and relational transparency. There was an exhaustive review of previous research and no studies were found that explored these two concepts or the possibility of a relationship between them.

Research Question

The research question for this study was, what was the relationship between a principal's growth mindset and authentic leadership? One phenomenon that led to exploring these two theories was alleviating stress and to do that one must acknowledge the true self and enable the principal to lead with authenticity. Can principals fail in becoming authentic? Can this failure be linked to having a fixed mindset when focusing on self-improvement? These are questions that led to the relationship between these two theories being examined within this research.

Are administrators not capable of truly being self-aware or able to build trusting relationships with their employees without a growth mindset? Administration must believe they can continue to build their self-knowledge. Self-awareness requires a willingness to learn about one's weaknesses, which cannot be cultivated within a fixed mindset. Evans (1996) recognized that authenticity required fortitude and that leaders must develop and demonstrate it. Fortitude required a willingness to acknowledge that they could improve. A weakness, in a fixed mindset, meant they did not have the skills needed and therefore, they would fail. The leaders did not want to show that failure to themselves or others. Therefore, this study researched the

relationship between a growth mindset and leader's authentic qualities of self-awareness, balanced processing, moral virtue, and relational transparency.

Ilies et al. (2005) suggested that a growth mindset could help develop one's balanced processing and Diddams and Chang (2012) articulated that personal growth cannot occur if one held a fixed mindset. But no research has shown an interest in demonstrating a relationship. Research has provided outcomes to show that an incremental theory or growth mindset improved school culture and increased academic performance (Blackwell et al., 2007; Elliott & Dweck, 1988; Gonida et al., 2006). Yet, to date, there are no known studies evaluating the relationship between this theory and authentic skills. Studies encouraged administrators to improve self-awareness or moral virtue, but there are no ready-to-use accessible tool(s) for them to help increase this authenticity. One answer could be to build the growth mindset among principals to aptly be able to confront the authentic deficiencies to produce the needed skills.

An important point to remember is that mindset can change (Blackwell et al., 2007; Dweck 2000, 2006; Heslin, Lapham, & Vandewalle, 2005; Heslin & Vandewalle, 2011; Kam et al., 2014; Romero et al., 2014). Neuroscientists' identified, "that experience can modify brain structure long after brain development is complete" (Kolb & Whishaw, 1998, p. 44), which means that adults can grow new neural connections. Understanding that the brain can learn new things and understanding growth mindset is important to expanding authentic awareness and skills.

Research on authentic leadership, especially in schools, is still in its early stages (Duignan, 2014; Gardiner, Cogliser, et al., 2011; Ilies et al., 2005). These early studies provided information to show that leaders needed to use various sources of evaluation to gather knowledge to improve themselves and their leadership (Ilies et al., 2005). Gathering information was

intimidating to someone with a fixed mindset, because if they did not already know the information then, they were not as smart as they thought (Dweck, 2000, 2006). This meant they failed, which was not acceptable. A growth mindset opens a person to seek and utilize feedback because he or she is wanting to improve and learn (Dweck, 2000, 2006).

Part of seeking evaluative information is to develop a core set of reflective practices to help with leadership development (Polizzi & Frick, 2012). Growth mindset allows leaders the chance to contemplate the new information they are exposed to because an authentic leader is open to hearing all feedback, even hard messages. If one holds a fixed mindset, he or she would not be willing to face all feedback because if it is negative, that would mean that person was unsuccessful (Dweck, 2000, 2006). Professional development can help with building reflective practices, but there is little guidance for leaders who are focused on improving self-awareness, reflection, and growth (Bird et al., 2012; Polizzi & Frick, 2012).

Hypothesis

Hypotheses are, “predictions the researcher makes about the expected outcomes of relationships among variables” (Creswell, 2014, p. 143). There are few studies which focused on the authentic leadership of principals in public school settings and none in combination with a focus on growth mindset. The directional hypothesis asserted that principals who have a higher level of authentic leadership would also have a higher level of growth mindset. The interest in this research lies within the speculation that a principal who demonstrated growth mindset also exhibited the authentic traits of self-awareness, balanced processing, moral virtue, and relational transparency. The overall belief is to help principals increase their well-being and the well-being of their staff and as can be seen in the literature review.

Significance of the Study

Reflection on principals who develop their authentic leadership through a growth mindset lens is important for several reasons. First, this research provides principals with a guide to build their growth mindset in the domain of authentic leadership and improve their practice of living and leading with purpose. Second, skills are acknowledged that can help principals to absorb positive and negative feedback to guide their self-awareness, relational transparency, moral virtue, and balanced processing. Third, this research adds to building positive school cultures by encouraging principals to develop themselves which contributes to the good of the school (Polizzi & Frick, 2012). Fourth, information gathered can improve training programs to help recognize and develop growth mindset in combination with authentic leadership within future administration. Fifth, district personnel can use this research as a guide to assess and develop potential principals' authentic leadership and growth mindset. Sixth, this research contributes to existing literature by adding another study that validates the Authentic Leadership Questionnaire (Neider & Schriesheim, 2011; Walumbwa et al., 2008) and helps to operationalize the Authentic Leadership construct (Avolio & Gardner, 2005; Randolph-Seng & Gardner, 2012; Shamir & Eilam, 2005; Walumbwa et al., 2008). Lastly, to date, scholars have not researched the relationship between growth mindset and authentic leadership for principals.

Definition of Terms

For this study, the following terms were used.

Authentic Leadership – Walumbwa et al. (2008):

... define authentic leadership as a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster

greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development. (p. 94)

Balanced Processing – refers to a person who evaluates all negative and positive information about his or herself. The leader searches for feedback and processes all information objectively (Gardner, Avolio, et al., 2005).

Fixed Mindset – also known as the entity theory of intelligence, refers to a person’s belief that he or she only has a fixed amount of a trait, such as intelligence (Dweck & Leggett, 1988).

Growth Mindset – also known as the incremental theory of intelligence, refers to a person’s belief that he or she can develop a trait through learning and experience (Dweck & Leggett, 1988).

Implicit Theories of Intelligence – refers to a person’s beliefs about whether his or her intelligence can be developed or whether it will stay the same (Dweck & Leggett, 1988).

Moral Virtue– is the ability to make decisions based on what is good for the community and not just the leader. Authentic leaders are guided by their values and by the interests of all; leaders are selfless when making decisions (Luthans & Avolio, 2003).

Principal – was also known as an administrator in this study. The principal could work at any level of public education K-12 and held a Montana administrator’s license (Office of Public Instruction [OPI], 2019a). Even though there were a small number of superintendent/principals included in this study (those who served in both roles), the leadership position was referred to as a principal.

Relational Transparency – “refers to presenting one’s authentic self through openly sharing information and feelings as appropriate for situations” (Avolio, Walumbwa, & Weber, 2009, p. 424).

Self-Awareness – an understanding of one’s strengths, weaknesses, values, traits, feelings, and how his or her behavior affects others (Kernis, 2003).

Staff – included both classified and certified members of a school community.

Delimitations

The delimitations of the study were as follows.

1. The data were collected during the spring of 2019 through an on-line survey sent to all 474 public-school principals in Montana.
2. The study required the leader to hold a principal’s state license. There were some small schools that only had a “supervising teacher” as the leader and not a principal. These supervising teachers were not included as they did not have the proper qualifications. In addition, there were some schools with a superintendent who was also acting as the principal. That superintendent also holds a principal’s license; therefore, all superintendents were recognized as principals for the purpose of this study.

Limitations

Although there were boundaries created for this research, there were also some potential limitations. Public-school principals in Montana were asked to participate and a volunteer sample was gathered; therefore, the findings cannot generalize to another state’s population. There are three titles for leaders in Montana public schools: superintendent, principal, or teacher supervisor. Only administrators with the title of principal or superintendent were included because of the education and licensure that are needed for these positions. In addition, there

were some participants who chose not to complete the survey. Also, 112 administrators chose to participate in the study, which is only 24% of the population. Using the Raosoft calculator (2004), the projected sample size needed for this study, with a confidence level of 95%, was approximately $n = 213$. Lastly, some emails were incorrect, although a database from the state education office, which is updated consistently through a self-report option, was utilized.

Summary

This quantitative study focused on Montana's K-12 public school principals. There was an investigation into the relationship between principals' growth mindset and their authentic leadership style. Terms were thoroughly defined because of the importance for readers to understand the information and limitations and delimitations of the study were recognized. Authentic leadership is important for developing trust and increasing engagement for staff (Bird, et al., 2012), which can lead to academic success and a positive school culture (Forsyth et al., 2011; Wahlstrom & Louis, 2008). Leaders are often overworked and finding the time to learn how to improve leadership skills can be a challenge (Combs et al., 2009; Fraser & Brock, 2006; Friedman, 2002). The remainder of this dissertation is arranged into four chapters. Chapter 2 reviews literature to show why authentic leadership is important to education and to demonstrate how a growth mindset can help to establish the time and space for an administrator to work on self-awareness and leadership skills. Chapter 3 outlines the study design, population, instrumentation, and data analysis. Chapter 4 interprets the data and Chapter 5 discusses results, offers suggestions for current practice and future studies, and describes limitations (Stone, 2012).

Chapter Two: Review of Related Literature

A methodical literature review is necessary to give the purpose of the study meaning and significance. The review also highlights the need for this study. Boote and Beile (2005) believed that, “to advance our collective understanding, a researcher or scholar needs to understand what has been done before, the strengths and weaknesses of existing studies, and what they might mean” (p. 3). Also, Creswell (2003) stated, “literature reviews help researchers limit the scope of their inquiry, and they convey the importance of studying a topic to readers” (p. 27). Previous research was reviewed to help develop this quantitative study. This literature review explored the research on implicit theories and authentic leadership theory and utilized a hypothesis to examine if there was a relationship between the two theories.

Authentic leadership has been studied extensively in the business arena, but not adequately in the educational setting, especially within the principal realm (Duignan, 2014; Gardner, Coglisier, et al., 2011; Ilies et al., 2005). Implicit theories have mostly been researched with students, mainly in the elementary setting. There is not much research within the work setting, or with adults. These two theories are prime to be studied together in the school setting with the focus on principals. Currently, there are no studies that bring together these two critical fields.

Implicit Theories

Implicit theory is a framework created by researchers to describe how behavior relates to a self-attribute, such as intelligence. Two beliefs guide this theory: entity theory, or fixed mindset, and incremental theory, or growth mindset. Although many people displayed aspects of both mindsets (Dweck, 2006), depending upon circumstances people endorsed one over the other. Most research completed within this field has been set in schools with students often

during transition years, middle school to high school for example, and focused on the attribute of intelligence. Researchers lately have begun to focus on more human traits than just intelligence and studies are moving into newer domains, such as the business field, but that is still within its infancy (Heslin, Lapham, & Vandewalle, 2005; Heslin, Vandewalle, & Lapham, 2006; and Keating & Heslin, 2015).

People who display a fixed mindset, or entity theorists, believe they have a fixed amount of a specific trait. They infer that failure defines them and if they must work at something their ability is questioned and therefore, they are not as talented or smart as they once thought (Dweck, 2000, 2006). They want to validate their abilities, not improve upon them. People with a fixed mindset felt smart when they experienced success utilizing little effort (Dweck, 2000). They often used a helpless response when challenged, which drove them to make excuses for why they failed (Diener & Dweck, 1978). Entity theorists blamed their failure on their lack of a specific trait (Dweck, 2000). This led students to quit when they encounter failure, instead of working to overcome the difficulty.

When focused on intelligence, a person with a fixed mindset constantly called ability into question as demands were placed on the intellect, which affected self-confidence (Dweck, 2000). People also tended to judge themselves more when working with a fixed mindset, which forced them to make judgments about others, sometimes quickly and without enough information (Dweck, 2000; Dweck, Chiu, & Hong, 1995; Dweck, Hong, & Chiu, 1993; Levy et al., 1998). Dweck, Hong, and Chiu (1993) also found evidence that entity theorists assessed information with an evaluative eye and created judgments more than incremental theorists. Robins and Pals (2002) theorized that entity theorists had negative feelings toward themselves and the ease with which they gave up in the academic realm led to a lower self-esteem.

The use and conceptualization of judgments were the focus of a study by Levy et al. (1998). They sought to discover whether the implicit theories students utilized would affect their perceptions of others. The study established that the student's choice of either entity or incremental theory affected their judgments of others. Entity theorists "... tend to make significantly stronger judgments of both positive and negative group attributes than do individuals holding incremental theories" (Levy et al., 1998, p. 1426). These authors identified that when information was inadequate, entity theorists were quick to make either global and/or specific attribute judgments about others. They did not need much specificity and felt they were justified in making the judgments. Overall, people who believed stereotypes and made judgments tended to associate with a fixed mindset.

Judgments can damage how a person with a fixed mindset approached a task. On the other hand, people who utilized a growth mindset, also referred to as incremental theorists, believed they could learn and grow from mistakes and failures. They would engage in challenges because they felt their intelligence was malleable, which guided them to take risks. Dweck (2006) stated that people with a growth mindset understood where their abilities lay and would try to improve upon them. They would use a mastery-oriented response when confronted with a challenge, which utilized problem-solving strategies and a willingness to learn from frustration and failure (Diener & Dweck, 1978; Dweck, 2000). These individuals would not make excuses for failures, rather they would look at the failure as an endeavor to solve. Dweck (2006) also discovered that a person with a growth mindset did not have the competitive drive to be the best, as a person with a fixed mindset did and therefore, was be more apt to cooperate with peers and helped them to also be successful.

Incremental theorists helped others and they did not feel threatened by another's success (Dweck, Chiu, & Hong, 1995). They were also more likely to develop positive feeling towards themselves, which helped to create overall well-being. Erdley et al. (1997) found that, "... following rejection, children given learning goals increased their expressions of positive affect and positive self-evaluations, which is an emotional reaction that is associated with greater persistence" (p. 270). Another study discovered that persistence, along with other mastery-oriented tasks, which were tasks focused on learning a new skill or gaining new knowledge, were related to adopting learning goals (Grant & Dweck, 2003). Persistence was an outcome of the intrinsic motivation that incremental theorists tended to tap into when met with challenges. Elliott and Dweck (1988) questioned why some students met challenges and others did not. They examined why students performed differently on the same exercise, even though they had similar abilities. One of their findings suggested that a student's belief system could interact with confidence to maintain persistence when he or she confronted a hard task. Dweck (2000) discussed several studies she was involved in where students with fixed mindset and high confidence in their ability still were academically unsuccessful. She explained that confidence only can take a student so far and that it was shaped by the implicit theory the student held. She also addressed other studies that reported confidence predicted academic achievement. Dweck (2006) stated this is true until the work becomes challenging. Once students had trouble, their implicit theory took over and if those students were utilizing an entity theory, they would often quit (Dweck, 2000).

Robins and Pals (2002) researched self-esteem and implicit theories and concluded that because entity theorists tended to choose maladaptive coping behaviors when met with an academic challenge, this could lead to a decrease in self-esteem. Although they could not say if

the maladaptive behaviors led to a lower self-esteem or if a lower self-esteem triggered an entity mindset, this is a good starting point for further research.

Overall, implicit theories help to understand individual responses to challenges and how differently each person can react even though similar abilities are present. Dweck (2000) observed in her review of several studies, including her own, that,

... implicit theories and goals can illuminate not just achievement processes, but even more fundamental processes of the self and even more basic coping processes. They can tell us who, in encountering difficulty in their lives, will maintain and who will lose self-esteem or a sense of worth; who will feel hopeful and who will feel devastated or become depressed; who will cope constructively and who will not. (p. 50)

An important note to remember is that a person with a fixed mindset displayed as much self-confidence as a person with a growth mindset until they were challenged (Dweck, 2006). When their motivation to pursue the activity was affected, they were determined to stop rather than fail (Dweck & Leggett, 1988).

Motivation and Goals

The implicit theories model centers on motivation (Blackwell et al., 2007; Carr & Dweck, 2011; Dweck, Chiu, & Hong, 1995; Dweck & Leggett, 1988; Dweck & Sorich, 1999; Elliott & Dweck, 1988). One of the catalysts for studying implicit theories is the focus on why children with the same abilities will either choose goals that help them pursue a challenge or choose goals that help them avoid or make excuses for their failure. Motivation affecting cognitive processes was the key to Dweck's (1986) article which addressed the problem of researching cognitive abilities alone. She was concerned with more than just intellectual ability. Dweck wanted to determine what the motivation was behind success and failure. She concluded that motivation

helped students to utilize the knowledge they had, gain new knowledge, and generalize their skills to new circumstances.

Dweck and Leggett (1988) ascertained that previous studies researched adaptive and maladaptive academic behaviors and chose to pursue the psychological functioning behind those behaviors. They described that students responded to academic tasks with either a mastery-oriented or a helpless response. These authors were curious about why students who had the same ability performed at different levels on a task. Even more concerning was that some children chose strategies that inhibited their functioning (Dweck & Leggett, 1988). Their research led them to develop a model that described motivation in terms of goal-oriented behaviors. The authors explained that the main component to their model is, "... its depiction of the manner in which underlying personality variables can translate into dynamic motivational processes to produce major patterns of cognition, affect, and behavior" (Dweck & Leggett, 1988, p. 271).

Elliot and Dweck (1988) introduced two goals that students sought during intellectual pursuits: learning and performance goals. This belief asserted that these goals would create either a helpless or a mastery-oriented response to an achievement situation. These authors discovered that children's achievement goals influenced their reactions to the task at hand. Learning goals centered on exploring new ways to solve the problem, regardless of the student's ability level. The fundamental idea was to learn from the defeat and grow. Students were not worried about being unsuccessful the first time. The authors discovered that performance goals, on the other hand, did not focus on building new knowledge and skills. Students who felt they had low abilities and showed performance goal behavior reacted negatively to mistakes and did not pursue the challenge; they did not care to learn because they felt as though they did not have

the ability to do so (Elliott & Dweck, 1988). In fact, Elliot and Dweck observed children who felt they had low abilities,

... responded to feedback about mistakes in the characteristic learned helpless manner: making the attribution that mistakes reflected a lack of ability, responding to them with negative affect, and giving up attempts to find effective ways of overcoming those mistakes despite “ability to learn.” (1988, p. 10)

Dweck and Leggett’s (1988) data identified that students’ goals affected how they approached challenges. These authors discovered that students who ascribed to learning goals attempted challenges positively and with creative problem-solving skills. Contrarily, students who applied performance goals focused on judging one’s abilities and balanced the amount of effort versus outcome; if high effort was given, and in their minds high effort equals low ability, that would prove to others they were not as smart as they once thought. Dweck and Leggett completed their research with elementary students, like many other studies, but what about older students?

Aronson and colleagues (2002) studied college students and mainly focused on why African American students performed worse than white students even though they had the same abilities. They completed their research through a stereotype lens, in which stereotypes for African American students in the past have negatively affected their intellectual abilities. They believed that students who prescribed to the stereotype information would adopt a performance goal approach. These authors found that when African American students, and to some degree white students, were encouraged to consider that their intelligence was malleable, they ascribed to a learning goal. They achieved better grades than their counterparts who did not have the same instruction. These authors were able to support previous findings that part of students’

failures was due to thoughts about their intellectual ability. Aronson and colleagues also proposed that it would be important to start encouraging intellectual malleability in elementary students.

Even with previous research, Grant and Dweck (2003) determined there was still no consensus on goal definitions and how these goals affected motivation and achievement. They completed five studies with college students and found documentation for four goal types: learning goals, outcome goals, ability-linked performance goals, and normative goals. Of the four, two were important to this review. The researchers discovered that learning goals were linked with intrinsic motivation and that students were more likely to digest negative information positively and used it to better their circumstances. Students who subscribed to ability-linked performance goals portrayed helpless behaviors when a failure occurred and had positive results when successful at a task that was easy (Grant & Dweck, 2003). These results add strength to the previous studies on goals and motivation.

Most studies focused on how students reacted to failure regarding goals, but Robins and Pals (2002) also wanted to research students' successes. They completed their research with college students in the field, instead of a laboratory. One goal of this research was to show the implicit theories model in all stages. Robins and Pals demonstrated a relationship between the theory utilized (fixed or growth mindset), the goal initiated, and the response patterns. Students who held a fixed mindset displayed a helpless response when met with an academic failure. They contributed their failures and successes to external sources, not to their ability. They also did not believe they could grow their intelligence. Students who held a growth mindset displayed a mastery-oriented response through a belief that effort and practice could improve their performance. These students also attributed success to hard work and not just ability. In

addition, the researchers recognized that the implicit theories beliefs were relatively stable over time and that students with a fixed mindset lost self-esteem throughout college possibly due to the pursuit of performance goals. Overall, these performance and learning goals had a causal role in academic achievement, which meant that a focus on learning goals motivated students, which then increased students' academic knowledge and skills (Robins & Pals, 2002).

Social Traits

As mentioned previously, implicit theories can apply to an assortment of human traits. Intelligence has been the focus for most of this research, but social interactions and social thinking are also important life functions that researchers are showing an interest in. One study applied performance and learning goals, which have a connection with academic achievement, to social situations with elementary students. Erdley et al. (1997) discovered that students' social interactions were guided by their implicit theory of personality and the goals associated with those theories. They noticed that if students subscribed to a fixed mindset and failed at a social interaction, they employed performance goals and would choose to avoid the situation and made excuses for failure. The students wanted others to see them in a positive light and would avoid interactions that might cause them to not be as successful as they hoped. These students also responded negatively to the failure. They did not want others to see the "low abilities" they felt they had. However, if students aligned with a growth mindset, they used learning goals and therefore, adapted and grew from the failure. They saw it as a learning opportunity and did not worry about how others perceived them. Overall, Erdley and colleagues stated, "... our findings indicate that children's goals play an important role in setting up their interpretations of social cues, as well as their behavior patterns" (p. 270). These results support previous research that theory and goal alignment is as important to social situations as it is to academic achievement.

Dweck, Chiu, and Hong (1995) were concerned with people's implicit theories and behavior not being well defined and, "... describe a theoretical model of how implicit beliefs influence people's inferences, judgments, and reactions, particularly in the face of negative events" (p. 267). These researchers believed that social behavior could be better learned and identified. They discovered that people with a fixed mindset tended to make global judgments about their own abilities and the abilities of others, especially after a negative event. People who held a growth mindset, on the other hand, tended to explain the negative outcome through positive problem-solving about how to make the situation better. They did not focus on a judgment. Rather, they focused on the change in effort or strategy. The people with fixed mindsets, then, handled negative situations by judging themselves and others, which tended to lead them to helpless coping strategies, such as avoiding an interaction with another student. Lastly, because having a fixed mindset meant quickly assigning judgments, they did not have a whole picture of their true abilities or the true abilities of others. The people with fixed mindsets also wanted to punish, due to the belief that others are seen through a judgment lens, whereas people with a growth mindset wanted to educate because they saw the fault as one part of a whole person that can be changed.

Social functioning is important to success. Tamir and colleagues (2007) took this idea one step further by researching implicit theories of emotion and how those related to emotional regulation and social functioning during the transition to college. They wanted to investigate how one's belief in the malleability of emotions affected behavior. College students who held a fixed mindset began their first semester with poor social regulation skills. These researchers found that those students tended to believe that emotions are fixed, which produced more negative feelings throughout their first year in college. People with a fixed mindset also, "... had

less favorable emotion experience, lower well-being, greater depression, more loneliness, and poorer social adjustment” (Tamir et al., 2007, p. 740). People who held a growth mindset believed their emotions were malleable, and therefore, Tamir and colleagues detected more positive emotions and social interactions during their first year. One interesting note about Tamir et al. research; it was the first of its kind to establish that beliefs about emotions can lead to adaptive and maladaptive outcomes.

Work Setting

The primary setting for implicit theory research has been with students in schools, elementary through college. One of the first studies to address implicit theories within the work setting was completed by Heslin, Latham, and Vandewalle (2005). This began the movement from the study of students to the study of leaders. These authors were concerned with how a manager’s implicit theory orientation affected his or her judgment of employees. They completed four studies that focused on manager’s beliefs about the malleability of employee work traits and how that affected their recognition of the employees change in behavior. The researchers discovered that implicit theories explained the difference in manager acknowledgement of employee behavior improvement. Managers who ascribed to a fixed mindset tended to believe their first judgment was the most important and trait judgment laced the rest of their beliefs, whereas managers who held a growth mindset believed that employees could change and used the data to guide their thinking. Once an initial impression had been formed, managers with a fixed mindset used that to guide the rest of their beliefs about their employees, while managers with a growth mindset were not as affected by prior negative information and attributed growth where it was due.

Another important finding by Heslin, Lapham, and Vandewalle (2005) was that managers who held a fixed mindset could be taught to use a growth mindset. They were able to train managers who subscribed to a fixed mindset to view employees differently through a growth mindset lens. This change was seen after the treatment took place, but it is unknown how long that change in implicit theory lasted. The researchers also suggested that further research be conducted on the incremental theory to see if there are negative consequences within the workplace.

In addition, a study by Heslin, Vandewalle, and Lapham (2006) chose to research if manager's implicit theories affected their willingness to help employees improve their performance, since there was no previous research completed on this concept within the work environment. They were curious why managers reacted differently to helping their employees and were interested in the motivation behind the willingness to do so. Heslin and colleague's results showed a relationship between a person's implicit theory and whether they coached their employee's performance, more to the point, when a growth mindset was present, then coaching occurred. A manager who displayed a growth mindset was motivated to help his employees to improve, whereas a manager who displayed a fixed mindset gravitated towards not encouraging employees because he believed those employees would not improve. When managers held a fixed mindset, they did not want to spend time on training because they felt it would not help.

Kam et al. (2014) recognized that previous research had explored manager's implicit theory orientation on their own behavior and took that one step farther to see how employees understood their manager's implicit theory orientation. These authors wanted to determine if employees' behavior was different because of their understanding of their managers implicit theory orientation. They found support for the relationship between employees work

improvement and positive job satisfaction and their manager's growth mindset behavior at work. Kam and colleagues also noted that there was more of a relationship between implicit theory identification than with transformational leadership recognition, meaning that implicit theory was better recognized by employees than transformational theory. This adds to the importance of Kam et al. research, especially in the work setting.

Although Keating and Heslin (2015) completed a non-empirical article, these authors also added to the extent research of implicit theories within the workplace. The researchers' concern was that even though there was a mass of research on what makes an employee engaged, there still were many studies that recognized employees were dissociated from their work. Keating and Heslin argued that employee's engagement could be due to their implicit theory association about skills needed to perform the task. An employee with a growth mindset would be more willing to pursue hard tasks and more willing to work with others, whereas an employee with a fixed mindset would be less likely to try new tasks and more apt to have negative interactions with colleagues. These researchers believed, "there are a range of initiatives that human resource managers might take to evolve a culture of genius towards a culture of growth" (Keating & Heslin, 2015, p. 337). One of those initiatives was to expose employers and employees to growth mindset literature. Another was to train managers in recognizing a growth mindset within a potential employee. Lastly, the research suggested that it was important to teach employers to continually preach about the potential of growth mindset and to have them encourage their employees' growth.

Perceive/Relate to Others

Applying implicit theory to social interactions, as well as intellectual conquests, can be important when deliberating on how an employer and employee perceive one another and how

they perceive the students they work with daily. A person's perception of a situation can affect their behavior (Dweck, Hong, and Chiu, 1993; Heslin, Lapham, & Vandewalle, 2005; Heslin & Vandewalle, 2011; Olson & Dweck, 2008). Dweck, Hong, and Chiu (1993) reviewed previous research and chose to focus on dispositional inferences, or an individual's behavior because of internal characteristics which were influenced by their understanding of evidence presented. They put forth that a belief in non-malleable traits led to dispositional inferences, whereas a belief in malleable traits did not. In fact, a person with a growth mindset would pinpoint the exact skill that was lacking for that situation, such as effort, and work to improve. People with a fixed mindset would make judgments and then apply those judgments globally to themselves or another person. They would shun what was wrong by making excuses and avoiding the outcomes. The researchers also wanted to make note that these inferences are domain specific, which means a person could have a different response due to a different implicit theory alignment for that specific situation:

In conclusion, our approach places dispositional beliefs at the heart of person perception.

It suggests that different people make different assumptions about the nature of dispositions and that these assumptions may have widespread effects on important personal and interpersonal processes. (Dweck, Hong, & Chiu, 1993, p. 654)

Yeager and Dweck (2012) stressed the importance of researching resilience in relation to mindset. They explored academic and social adversity through the lens of how a person perceived those adversities. They recognized that students' mindsets could change, which could promote resilience in hard situations. For instance, if students could be taught that academic challenges can be learning experiences, instead of roadblocks, their resilience is increased for future challenges. These authors also hypothesized that if students could learn a growth mindset

and generalize it to a challenging time, such as a transition to a new school, they would be better equipped to handle the stressful social and academic challenges.

People's perceptions of others were also noted within work setting inquiries. Two studies focused on managers' perceptions of employees and how that related to their beliefs in employee improvement and coaching (Heslin, Latham, & Vandewalle, 2005; Heslin & Vandewalle, 2011). Heslin, Latham, and Vandewalle (2005) evaluated managers' judgments of employees work traits and how those perceptions related to their implicit theory orientation. Managers with a growth mindset were more apt to utilize data to help an employee improve, whereas managers with a fixed mindset were more apt to stay with their original judgments and not be of much help to the employee. Heslin and Vandewalle (2011) studied procedural injustice among managers and why that differed. They contributed the variance to implicit theories. Managers perceived employee work production through a performance appraisal and then based on their beliefs about the malleability of traits, reacted differently. Heslin and Vandewalle stated that, "this study is unique in that no prior research, to our knowledge, has examined how an individual's IPT is empirically related to the perceptual, affective, and behavioral responses they elicit from others" (p. 1708).

Praise/Feedback

Perception is key when assessing a situation or person and is important when considering mindsets, but how do people develop their beliefs within themselves to be successful? In the late 1990s, scholars began to study the idea of praise and how it was related to implicit theories. Many parents noted that ability praise was important to raising successful children (Dweck, 2006; Kamins & Dweck, 1999), which conventionally makes sense, but researchers have learned the opposite. Two types of praise were the focus of several studies: effort or process and ability

or person. These studies found that subjects who experienced ability praise chose tasks that were easier, which then continued their success, whereas subjects who experienced process praise tended to choose harder tasks that continued their learning (Dweck, 2000, 2006; Kamins & Dweck, 1999; Mueller & Dweck, 1998). Mueller and Dweck (1998) completed 6 studies with 5th grade students and detected, “praise for intelligence seemed to teach children to value performance, even when following their own information-seeking interests, whereas praise for hard work seemed to lead children to value learning opportunity” (p. 48). These researchers also noted that praise for intelligence after success led students to believe it was due to ability and when they experienced failure, they related it to their lack of intelligence. This also guided students to adopt a fixed mindset and believe that they only had a set amount of intellect. On the other hand, students who were praised for hard work believed it was due to their effort and that they could learn from a more challenging activity. This led students to adopt a growth mindset and believe they could grow their intelligence. If these students failed, they would blame it on their effort and not their ability.

Kamins and Dweck (1999) took a different approach to praise and students. Their hypothesis suggested that praise or criticism of elementary students’ personal traits would erode student’s self-worth and affect their ability handle similar situations. They also considered that giving feedback to students for their effort would increase their use of positive problem-solving strategies when confronted with hard tasks. They focused on different types of messages given to students, whereas the previous study focused on praising ability versus praising effort.

Kamins and Dweck were also concerned with the type of response students tended to adopt after receiving the messages: helpless in contrast to mastery-oriented response. A helpless response consisted of students giving up in the face of difficulty, whereas a mastery-oriented response

required a student to put in more effort and try different strategies for the sake of learning. Their findings indicated that their hypotheses were not rejected. Students who received, "... person-oriented criticism or praise may establish a sense of contingent self-worth by conveying to children that they are good only when they succeed and bad when they fail" (Kamins & Dweck, 1999, p. 845). These students then chose a helpless response when tested. The authors added to the literature by demonstrating that the type of feedback had different consequences even when the intent was good.

Dweck (2006) also focused on praise in the workforce. She stated that employees, who grew up in the decade of the 1990s, experienced intelligence and ability praise and expected the same thing at work. Dweck encouraged the workplace to develop growth mindsets among their employees by praising effort, "... for taking initiative, for seeing a difficult task through, for struggling and learning something new, for being undaunted by a setback, or for being open to and acting on criticism" (p. 137). Her concern was with employees not having developed growth mindsets to be leaders.

Although most studies focused on students' implicit theories, there is growing evidence for a need for more research in work settings. The few workplace studies that were reviewed, centered on business. There is a demand not only for this venue, but also for research within school administration, but there is more to leading than just a growth mindset. Investigations must also involve the exploration of how implicit theories fit within a leadership theory. Authentic leadership's importance and the value of this theory within an educational context follows.

Authentic Leadership Theory

Positive psychology emerged as a reaction to the spotlight on people's negative traits or more pointedly, what was wrong with them. This movement sought to change that view by looking at what is positive and right and to encourage growth (Luthans & Avolio, 2003).

Authentic leadership grew out of positive psychology and has been the focus as a core theory for leaders (Avolio & Gardner, 2005; Luthans & Avolio, 2003; Rego et al., 2012). Research on authentic leadership, especially in schools, continues to be in the early stages due to lack of ongoing research (Duignan, 2014; Gardner, Cogliser, et al., 2011; Ilies et al., 2005) and although there are similar definitions, there is no consensus on terminology (Avolio & Gardner, 2005; Gardner, Cogliser, et al., 2011; George, 2003; Shamir & Eilam, 2005). The definition used for authentic leadership theory materialized from researchers in positive psychology, Walumbwa et al. (2008):

... define authentic leadership as a pattern of leader behavior that draws upon and promotes both positive psychological capacities and a positive ethical climate, to foster greater self-awareness, an internalized moral perspective, balanced processing of information, and relational transparency on the part of leaders working with followers, fostering positive self-development. (p. 94)

Leaders can be transparent with their beliefs and values through their behaviors. The expression of the "true self" through behaviors is how authenticity is revealed (Ladkin & Taylor, 2010; May et al., 2003). Ladkin (2008) expressed that one of the biggest demands that a leader confronts is the personal feelings he is having about an issue versus what is best for the staff. Authentic leadership theory is considered the "root concept" for positive leadership theories (Avolio & Gardner, 2005; Luthans & Avolio, 2003; Rego et al., 2012), which is one reason it was chosen

for this dissertation. Root concept is the underlying belief that authentic leadership theory can be found in all other forms of positive leadership (Avolio & Gardner, 2005).

What Sets Authentic Leadership Apart from Other Forms of Leadership?

Although authentic leadership is considered the “root concept” (Avolio & Gardner, 2005; Luthans & Avolio, 2003; Rego et al., 2012) of all forms of positive leadership theory, there are other traits that set it apart from other forms of positive leadership. Not all authentic leaders are charismatic, in fact, this is not a qualification to be authentic (George, 2003; Luthans & Avolio, 2003). Luthans and Avolio (2003) stated, “... the developmental assumption we make about authentic leadership, that core attributes of such leaders can be developed, including moral reasoning capacity, confidence, hope optimism, resiliency, and future-orientation” (p. 246). Authentic leadership is not a matter of nature versus nurture. One can “grow” their authentic abilities (Avolio, 2010; Cooper et al., 2005; Duignan, 2014; May et al., 2003). Through studies Avolio (2010), “... had preliminary evidence that we could intervene with relatively short interventions that were targeted to specific leadership styles and could effect a change in styles, attitudes, and performance” (p. 754).

Authentic leaders also worked to develop a strong self-awareness and recognized their own weaknesses, which were strengthened by finding the right people to help fill those weaknesses (Ancona et al., 2007; Avolio & Gardner, 2005). Authentic leadership is a process that lasts throughout a lifetime. It is not a characteristic that one starts with, but something that one is always personally defining and growing. Another important concept of authentic leadership is that as leaders develop relationships with their employees, their authenticity also evolves. Kernis (2003) expressed that there was an “emotional contagion” between authentic leaders and their followers. Authentic leaders tended to exude a positive vibe because of their

self-work, and this was often noticed by followers, which helped them to also build their authenticity. A key to authentic leadership is the development of followers (Avolio & Gardner, 2005).

Another difference that sets authentic leadership apart from other forms of positive leadership, including transformation leadership, is that it also focuses on building the positive psychological capacities of leaders and followers. Psychological capacities, psychological capital, or PsyCap, includes the traits of confidence, optimism, hope, and resilience (Avolio & Gardner, 2005; Luthans & Avolio, 2003). Luthans et al. (2007) completed one of the original studies of PsyCap in the workplace and found that those four traits could be measured and that PsyCap was related to job place satisfaction. Amunkete and Rothmann (2015) also determined in their study of 452 employees that, "... authentic leadership was positively associated with psychological capital and job satisfaction, and negatively associated with intention to leave" (p. 277). They recommended that human resource departments focus on psychological capital to help create a positive culture.

A final difference that sets authentic leadership apart from other forms of positive leadership is that often a leader will experience trigger events that will alter his or her beliefs. Trigger events are negative or positive experiences that stimulate growth (Avolio & Luthans, 2006; Cooper et al., 2005; Gardner, Avolio, et al., 2005). Avolio and Luthans (2006) shared examples of trigger events, such as Mother Teresa and her experience of time with a dying woman and how that shaped who she became. Other examples, although not as specific, stated that a trigger event could be a book or a culmination of small events over time. Growth does not occur by itself. The leader must be open to the process of exploring and learning from the experience, even if it that is difficult to do. These events can be small and occur over a period or

develop as a one-time larger action (Cooper et al., 2005). Trigger events will have no impact unless the person who experiences one faces it truthfully. A person can either move through these experiences on automatic pilot or she can develop a process to work through the event (Avolio & Luthans, 2006). Avolio and Luthans believed that even though some people may be born with tendencies of authentic leadership, it is these trigger events that built true authentic leaders.

Four Factors of Authentic Leadership

Walumbwa and colleagues (2008) created a definition for authentic leadership which included four factors that are all required for the construct. Each of the four factors are essential and work together to help define what being an authentic leader entails. These factors include self-awareness, balanced processing, moral virtue, and relational transparency.

Self-Awareness.

Walumbwa et al. (2008) recognized in their research that self-awareness, relational transparency, internalized moral perspective, and balanced processing were not independent of one another within this paradigm and that a leader needed to develop all four for true authenticity. "... a leader's self-awareness is an appropriate starting point for interpreting what constitutes authentic leadership development" (Avolio & Gardner, 2005, p. 324). Avolio and Gardner (2005) also proceeded to say that it "... is not a destination point, but rather an emerging process where one continually comes to understand his or her unique talents, strength, sense of purpose, core values, beliefs and desires" (p. 324). Kernis (2003) also asserted it is an understanding of one's strengths, weaknesses, values, traits, feelings, and how his or her behavior affected others. Self-awareness is not an overnight experience, Branson (2007) stated that it takes patience and courage to experience this process. Avolio & Luthans (2006) declared,

“there is a very significant interaction that occurs between genetic predispositions and the environment, and it helps to shape human and leadership development overtime” (p. 62). Yet this work does not happen quickly, it is important to understand that many authors also asserted that this was the crucial foundation for leaders (Avolio & Gardner, 2005; Avolio & Luthans, 2006; Dweck, 2006; Gardner, Avolio, et al., 2005). Part of this process is to recognize deficiencies and be okay with those while trying to improve and better one’s self.

How a person approaches recognizing imperfections and handling difficult situations is a key to becoming an authentic leader. Fullan (2011) recognized that there is brain distortion and that one must diverge from their typical way of thinking to understand how to respond and feel about an experience. To truly know the self, it is important to realize that distortion may change the way we see things about ourselves and that can give one a false understanding. Sometimes a person does not recognize the obvious without knowing what exactly they are looking for (Fullan, 2011). A simple example of this is looking for your glasses when they really are on top of your head. Another example Fullan related was the experiment of the gorilla who walked through a basketball drill. When this video was shown to observers, they were asked to count the number of times the ball was bounce passed and when the video ends the observers were asked if they noticed anything different. Most of the observers did not see the gorilla walk through the drill (Chabris & Simons, 2009).

Shamir and Eilam (2005) encouraged leaders to become authentic through the process of creating life stories. These authors believed this process entailed development and alterations of the story which helped to develop a person’s self-awareness. By acknowledging and working through life’s experiences, a person can develop a better sense of self which supports leaders relating better to others. A leader’s behavior relates directly back to self-knowledge and a better

understanding of beliefs and values. Leaders who concentrated on building life stories tended to focus on those stories and less on skills. This also requires a strong inner strength and belief in one's self. To acquire a better self-concept is key and to understand stories that happen to us is important because it can better define personal values.

Authentic leadership can sometimes put more emphasis on positive self-attributes, which can be detrimental to leaders (Diddams & Chang, 2012). Diddams and Change (2012) were concerned that too much focus on the positive attributes and avoiding learning about weaknesses at the same time, could sabotage an authentic leader by increasing defensiveness. Examining the self objectively can be a challenge. Heifetz and Linsky (2002) explained that one must be able to distance the self from his feelings and experiences to behave in a way that positively affects most people. They also recognized that a leader could build trust with followers if they are able to hold their follower's anger, instead of reacting to it. When one can handle the anger and not act defensively, he is able to consider what is best for followers and not the self. These authors also realized that leaders must understand their vulnerabilities and try to atone for them. Wheatley (2007) stated that self-awareness and reflection were critical to the leadership position. It is vital for a leader to have built trust to honestly reveal deficiencies (Bryk & Schneider, 2002). People will always have information, feedback, anger, and frustrations and it is important for a leader to be able to listen. Heifetz and Linsky also articulated that a leader must "anchor" his or her true self and remember that the leader position is a role and most people react to the role and not the true person. There is a difference between becoming the role and playing the role. Research suggested that it was important to not become the role and that self-awareness is required to be able to do this. Understanding and demonstrating one's beliefs, visions, and passions was important because that consistent demonstration was part of the role. Another

researcher also acknowledged that the focus should be on the followers. Collins (2001) concluded that a great leader will look beyond her ego and focus on the good of the company. He felt that focusing on the inner self helped to create great leaders.

Senge (2005) questioned why leaders did not focus on building their inner self. He suggested they did not have the vocabulary or information. Senge's research stated that although it was hard to investigate insecurities, weaknesses, and prejudices (these can be considered our blind spots), it was important for self-awareness. This process often cannot be done alone (we need feedback) and can be challenging and make us feel exposed. A blind spot is, "the place within or around us where our attention and intention originates" (Scharmer, 2009, p. 6). This is the space from which a person engages. Scharmer described that this space is blind because it is not seen from our social interactions. He also stated the blind spots are our true intentions and what we need to reveal to ourselves. There is also a need for humility for these actions (Collins, 2001; Senge, 2005; Senge, et al., 2004). Avolio and Luthans (2006) took the explanation of self-awareness one step further and articulated that a leader's confidence was important when experiencing a challenge. The authors referred to this belief in confidence as self-efficacy. A key to authentic leadership was for leaders to learn self-efficacy and develop this among their followers. A component of self-efficacy is self-regulation, which is a way to reflect your true values by making choices that best suits oneself.

Understanding the unconscious is another important component. Fullan (2011) stated that one must know the true self and "trust own initial instincts" (p. 12). Wheatley (2007) explored how to help systems correct themselves and she realized this process could only start with leader's who were willing to look within. Leaders must be willing to be comfortable with self-reflection and internal growth to then be able to guide others in the process. A good

knowledge of self-awareness is fundamental to understanding all information and planning with that data.

Balanced Processing.

“The cultivated self is a leader’s greatest tool,” explained Senge et al. (2004, p. 180). A second component of authentic leadership is balanced processing. This element is well connected with self-awareness considering that it refers to a person who evaluates all negative and positive information about his or herself. The leader searches for feedback and processes all information objectively (Gardner, Avolio, et al., 2005).

One way to approach one’s weaknesses or a difficult situation is to suspend judgment, which helps to understand perspectives through a different, more balanced lens (Senge et al., 2004). This is a hard practice and takes commitment and time to achieve the ability to truly suspend judgment. This process can be uncomfortable; the leader will need to sit with and recognize difficult feelings to understand more than just their initial emotions and reactions (Senge et al., 2004; Ladkin, 2008). This comes from a place of analyzing a predicament objectively, even when it is something close to or about the leader. Senge and colleagues (2004) recognized that in moments of true suspension, one felt more unsettled than in control and that is okay. These authors also noted that if a leader never extends past a cursory glance at feedback or an experience, then she will only react instead of truly understanding the event. To look beyond the superficial takes’ strength, understanding, and confidence.

Ray and Myers (1989) and Senge and colleagues (2004) stated the voice of judgment, or VOJ, is what caused a need for suspension. When one experienced judgment, whether it is towards oneself or towards another, it was fueled by fear (Ray & Myers, 1989). The VOJ is also created by a lack of self-confidence, which can be generated from our daily experiences. The

VOJ interfered with clear decision making (Ray & Myers, 1989; Senge et al., 2004) and it can inch its way in, even when one is not expecting it. For instance, Ray and Myers explained that if one looks at something as good versus bad then judgment has taken over. It is important to first recognize the judgment and then try to suspend it. Wheatley (2007) described that it is not disparities between people that causes friction, but the interference of judgments. If one can silence the judgments, then he has a better chance to creatively make decisions that is best for all. Ray and Myers also encouraged leaders to turn their judgment into curiosity and to try and learn from the information instead of investigating it with a critical eye. When one places a judgment on something, the exploration stops there. By changing that thinking and looking at it with a curiosity, the leader can place themselves within a situation and sit with the feelings to better understand. If the leader uses the judgment to label, it shuts down the curiosity and investigation and then the risk-taking.

Another way to boost creative decision-making is to embrace uncertainty (Morris, 2009). The concept of whole systems healing emboldens a leader to become comfortable sitting with uncertainty, which can push a leader out of their traditional way of thinking. Morris (2009) encouraged leaders to let go of the idea that they were right and to ask for feedback before making decisions (Collins, 2001; Morris, 2009). "... our willingness to hold and consider different stories can free us from being isolated in our own" (Senge et al., 2004, p. 72). Walumbwa et al. (2008) also focused on considering different viewpoints before making any decisions. Morris encouraged leaders to seek diverse perspectives to support any decisions made because it helped to be more creative and to stop "group think" or the idea of the group agreeing to one idea, usually what a leader supports.

Overall, balanced processing is leaders making informed decisions. They will review all data and input and make a decision that is best for the community, not for the self. The key is objectively analyzing the information, but to do that one must recognize their VOJ and suspend that voice before any decision can be made.

Moral Virtue.

Moral virtue is the ability to make decisions based on what is good for the organization and not just the leader. An authentic leader is guided by their values and by the interests of all; the leader is self-less when making decisions (Luthans & Avolio, 2003). An important component of authentic leadership is an ethical core (Cooper et al., 2005; Fullan, 2011). That ethical foundation aided in reviewing situations with a moral eye and leaders considered the effects of their decisions on their followers as either negative or positive, which helped them to evaluate those decisions (Avolio & Luthans, 2006; May et al., 2003). An ethical leader was transparent in their actions; their values and beliefs were seen in their behaviors and was dependable throughout their leadership (Amunkete & Rothmann, 2015; Avolio & Gardner, 2005; May et al., 2003; Shamir & Eilam, 2005).

A leader's transparency is associated with their understanding that their position is always on trial and that they serve as a moral example not only for themselves, but for their organization (May et al., 2003). They understand they must set high standards and continually meet those through their daily actions because eventually their actions become a paradigm for their followers and community. May and colleagues (2003) established that this moral perception of a leader was part of what they title "moral capacity." Moral capacity also included the ability to evaluate a situation by effectively researching and hearing all perspectives. They understood how others were feeling and how an action affected them. Leaders listen, assess

without judgment, and decide the best course of action for their organization. May et al. recognized those who were able to acclimate positively to handling resistance helped unhappy factions build their moral authenticity over time.

Moral authenticity overall aligned values with behaviors (Avolio, Walumbwa, & Weber, 2009). These values and behaviors guided the leader and followers. Moral virtue is an important component of authentic leadership because it distinguishes this form of leadership from a charismatic leader. A charismatic leader influenced followers through words and speeches and an authentic leader influenced followers through creating a culture of ethical practices (Avolio & Gardner, 2005).

Moberg's (2006) work goes beyond creating a culture of ethical practices because it recognized there was a personal ethics blind spot and that leaders must analyze their responses to recognize those blind spots. His research focused on exclusively ethical virtues and identified when one competence interfered or overtook another one. As Moberg explained, "in summary, the personal ethics blind spot exists when persons are so keen on developing a competent self that they overlook the substance and expression of their moral selves" (p. 418). The large number of high-profile immoral acts by leaders drove Moberg's work, but the outcome was important for anyone wanting to lead authentically. Continually working to recognize where these moral virtues are hidden and that they are an important part of decision making is an integral component of authenticity.

A leader who recognizes and celebrates moral values is an important component to creating an ethical culture (Duignan, 2014). Staff tended to envelop an ethical climate of caring for themselves and others when an authentic leader was at the helm. Duignan (2014) acknowledged that a collaborative atmosphere was required when working to build ethical

practices. The goal of a leader was to increase positive outcomes for students and staff, which required a collective agreement upon moral virtues.

Recognizing where moral virtue originates is important for revealing true moral character to the self and others. Diddams and Chang (2012) observed that not only did people create ethical intentions within, but that they were also influenced by situations. Acknowledging outside forces is important, especially when a leader experiences extreme emotion due to the context. These authors also hypothesized that authentic leaders were more likely to empathize with their employees and acknowledge when they were wrong due to their developed moral values. Although Diddams and Chang did not test their hypotheses, they have studied this field, therefore it is important to consider. Another belief about moral virtue is that it requires self-regulation to develop and use (Neider & Schriesheim, 2011; Randolph-Seng & Gardner, 2012).

Origination of an internal ethical position guides leaders when recognizing those values. Another interesting hypothesis on the expression of moral virtues is to “lead beautifully” (Ladkin, 2008). Ladkin (2008) expressed that this idea essentially guided one towards an ethical purpose. This work observed how a leader enacted his or her authenticity and that authenticity could be seen through the moral purpose and acts. It is a different way to view the moral component of this leadership theory.

Can moral virtue be developed? Luthans and Avolio (2003) argued that leaders should build their moral capacity. They referred to it as a capacity because they believed it could mature. These researchers discussed that leaders in today’s world needed to focus on what was best for the building, to think of others. Leaders also encountered predicaments that were not always black and white. There were often situations where a leader made a decision that was not

clear-cut. It is important that a decision is made with an ethical lens and that it aligns with the leader's values and goals.

Relational Transparency.

Relational transparency specifies letting your followers see who you are, your values, beliefs, and faults. "Relational transparency refers to presenting one's authentic self through openly sharing information and feelings as appropriate for situations" (Avolio, Walumbwa, & Weber, 2009, p. 424). An authentic leader will be judicious in what they reveal, but will do so genuinely, to show who they truly are to others (Diddams & Chang, 2012; Kernis, 2003).

Authentic leaders who were transparent in their actions set up the opportunities for their followers to do the same, because they allowed them to present their ideas and contentions in a respectful manner (Avolio & Gardner, 2005; Avolio & Luthans, 2006; Avolio, Walumbwa, & Weber, 2009). Bird et al. (2009) found in their study that teachers' trust in principals increased when their actions matched their expressed positions. They discovered consistency between the previous studies completed in a workplace setting and their school setting. Transparency refers to displaying beliefs and values, but a trust must be built to do so.

Trust is an important component and throughout research trust has been linked with positive student academic outcomes; the higher the perceived trust among staff and administration, the more positive the student academic achievement (Bryk & Schneider, 2002). Bryk and Schneider (2002) explored the concept of relational trust and found that it was directly related to a developed set of positive cultural conditions that then led to an increase in academic performance. Relational trust referred to the relationships between various members of a community and required respect, competence, mutual regard for others, and integrity. Bryk and Schneider's definition of integrity referred to doing what one says they were going to do, which

related to relational transparency's idea of shared personal morals and followed through on them. Hanford and Leithwood (2013) echoed these findings with their own research where they discovered that teachers trusted principals who demonstrated integrity, competence, consistency and reliability, openness, and respect. They also learned that when leaders modeled what they said (integrity) it showed their ethical values and they were more trustworthy. When a leader's actions and words match, it established a condition for trust to be built; one must remember that all interactions are important and included in that condition for trust (Avolio & Luthans, 2006). Trust is a vital component when building relationships.

Relationships are a key to any form of leadership, but a main supposition of authentic leadership is that an authentic leader helps to develop authenticity within their followers (Avolio & Gardner, 2005) and this occurs when a relationship is established between the two positions (Gardner, Avolio, et al., 2005). A factor that sets great leaders apart from other leaders is the importance they place on personal relationships (Heifetz & Linsky, 2002).

Relationships help to build a positive culture where administration and staff took time to understand others' perceptions (Avolio & Luthans, 2006; Fullan, 2011). Strong leaders understand another's position when forming collective capacity, or the idea of improving at something together (Fullan, 2011). Avolio and Luthans (2006) recognized that being present with followers was about listening and understanding their perspective, which was important for relationships and understanding other points of view. Morris (2009) explained whole systems leadership, which included deep listening skills. She described that listening was an important task which included, "listen to learn" and "listen for understanding rather than agreement" (Morris, 2009, p. 6). Deep listening demonstrates that leaders are willing to truly learn about

others and illustrate they value their followers' reality. This helps to build trust and an authentic partnership.

Authentic Leadership Results

Although authentic leadership is still solidifying the commonality of some of the definitions and is still in its infancy of research (Avolio & Gardner, 2005; Gardner, Cogliser, et al., 2011; George, 2003; Shamir & Eilam, 2005; Walumbwa et al., 2008), there are findings that distinguish the importance of this concept. Rego et al. (2012) contributed to the importance of authentic leadership with their research that presented a link between authentic leadership and employees who were thriving in the work setting. Wooley et al. (2011), "... found that leaders perceived as authentic by their followers were seen as contributing to a more positive work climate" (p. 444).

How Implicit Theories and Authentic Leadership Can Work Together

Authentic leadership grew out of the positive psychology movement, which focuses on recognizing weaknesses and strengths (Luthans & Avolio, 2003) and building upon them in an ethical manner all while trying to lead followers and help them to improve upon their authenticity. It takes a courageous person to be able to recognize and improve upon weaknesses (Branson, 2007). Implicit theory is a framework created by researchers to describe how behavior relates to a self-attribute, such as intelligence. This theory could help with identifying and improving upon weaknesses, an essential part of authenticity. With the right mindset, a person can see faults and failures as a learning opportunity and not as something that is fundamentally wrong with them. A leader who employs a growth mindset will more likely be able to do this. Luthans and Avolio (2003) supported this idea with their expression, "... the developmental assumption we make about authentic leadership, that core attributes of such leaders can be

developed, including moral reasoning capacity, confidence, hope, optimism, resiliency, and future-orientation” (p. 246). There are many parts of the authentic leadership theory and the implicit theories of intelligence that overlap, and it is essential for leaders to recognize that a growth mindset will not only help them, but also their staff and students.

Brain Plasticity

“Brain plasticity refers to the brain’s ability to change structure and function” (Kolb & Whishaw, 1998, p. 43). This idea conflicts with a fixed mindset, which believes that we are born with a set amount of intelligence. Understanding that the brain’s neural connections can change helps to explain that people can learn new skills and build upon old ones. Authenticity requires a leader to grow and change, which entrusts one can do so. An important point in brain research is that one needs to practice learning to build neural connections. Overcoming thoughts like, “I can’t do this” and changing it to “I can’t do this yet” is an example of working towards building a growth mindset and skills.

Leadership Is Not Inherent

“What we’re finding is that one’s genes predispose but do not preordain one to lead” (Avolio & Luthans, 2006, p. 62). There are various studies that show people can improve their growth mindset and authentic skills. Branson (2007) determined that principals improved upon their authentic leadership skills by focusing on self-reflection practices. These practices were highly structured and “enabled these principals to clarify their thinking, to raise their self-awareness, to get in touch with their inner world, and to develop more mutually beneficial professional relationships in their school communities” (Branson, 2007, p. 236). Branson also suggested that there was a need for professional development focused on self-reflection practices. Another study expressed that leaders could develop authentic traits by leading with

honesty and sincerity through different life situations while learning from each one (Hsieh & Wang, 2015).

Authentic leadership research suggests that leaders are developed (Avolio, 2010; Cooper et al., 2005; Duignan, 2014; May et al., 2003), which follows the implicit theory model that meaning systems can be changed. A person with a growth mindset believes that people can develop and cultivate skills, but not everyone is going to learn at the same speed, nor be able to learn the same amount or improve in the same way. How individuals perceived their situation also affected their meaning systems and potential to grow (Blackwell et al., 2007). One study, which utilized college students, found that with growth mindset training, they improved their grades and had a more positive academic outlook (Aronson et al., 2002). Heslin, Lapham, and Vandewalle (2005) unearthed that people with a fixed mindset adopted a growth mindset outlook through a specific training program. This outcome implied their meaning systems could be changed. Another study that researched middle school students concluded that ideas about the malleability of academic skills could be changed (Romero et al., 2014). Lastly, Yeager and Dweck (2012) found that students changed mindsets and, as a result, they increased their resilience. Overall, the research examined exhibited that meaning systems can change and that authenticity can be developed. This helps to demonstrate that these two theories can work in tandem and perhaps be cultivated together.

Trust

Leadership can be developed in conjunction with another important component of a successful working environment, trust. Trust is a necessity for a viable, effective workplace. Studies have focused on leaders and followers (Avolio, Walumbwa, & Weber, 2009) and the dynamics that make successful partnerships. Trust is a necessary component in a relationship. It

is developed through true authentic behaviors (Avolio & Gardner, 2005), is a key component in positive academic environments (Bryk & Schneider, 2002) and is a byproduct of relational authenticity (Ilies et al., 2005). Hanford and Leithwood (2013) were interested in what characteristics helped to build trust between teachers and their administration and identified five key pieces: competence, consistency and reliability, openness, respect, and integrity. These items relate to the four components of authenticity. Through relational transparency, a leader is consistent and reliable with their words and behaviors and they are open to sharing information that is relevant to the situation. A leader's integrity, or their ethical actions can be seen in their moral virtue and they earn respect through their authentic actions. Another study found similar results in that, "... maintaining a high degree of consistency between one's espoused principals and one's actions was critical in determining leaders' perceived trustworthiness" (Coleman, 2012, p. 94). The relationship between authentic leaders and trust is an important component to recognize.

Kernis (2003) also identified that trust is needed for awareness of one's self. "The awareness component refers to having awareness of, and trust in, one's motives, feelings, desires, and self-relevant cognitions" (Kernis, 2003, p. 13). Building on this idea, a person who demonstrates a growth mindset utilizes trust when learning from a mistake or failure and trusts that the effort will be worth the trial run, even if not successful. In a similar vein, trust is favorable when digesting feedback from an employee. Authentic leaders will seek information from others to make an informed and objective decision. This is referred to as balanced processing. Trust is important for this venture to happen because a leader is more able to process the information if she is in a safe space, or one where trust is present. This is key because the

leader must focus on the positive, as well as the negative information about one's self (Amunkete & Rothman, 2015).

Where there once was little research on trust in schools (Cosner, 2010), there is now a growing number of studies (Tschannen-Moran & Gareis, 2015b). Tschannen-Moran and Gareis (2015a) observed that staff trust in principals was important to student learning. Trust is also an important component to authenticity (Avolio & Gardner, 2005; Bird et al., 2009; Bird et al., 2012; Coleman, 2012) and in combination with a growth mindset, helps to build a positive culture for students. In a large study done in a Chicago school system, Bryk and Schneider (2002) contrived that relational trust was necessary for school improvement. They stated that relational trust was about behaviors matching words, values, and expectations. The researchers described four components of relational trust: respect, competence, personal regard for others, and integrity. These components align well with the four parts of an authentic leadership. Respect refers to understanding another person and a recognition of their importance to the community. Competence indicates that one has completed their job correctly. Personal regard for others creates bonds between people because they support one another. Lastly, integrity refers to the moral code that one operates by and that one's behavior matches his words. These elements are important for a leader to demonstrate and hopefully impart to their followers, which can help to build a (more) positive community (Bryk & Schneider, 2002). Bryk and Schneider expressed that trust does not directly influence academics, but that, "... trust fosters a set of organizational conditions, some structural and others social-psychological, that make it more conducive for individual to initiate and sustain the kinds of activities necessary to affect productivity improvements" (p. 116).

Risk Taking

Trust is one of the foundations needed for people to take risks, but what are some of the others? The motivation behind the choice to take a risk is one of the primary focuses of the implicit theory research (Dweck, 1986; Dweck & Leggett, 1988; Dweck & Sorich, 1999). Employing a growth mindset and having a supportive environment assists in working through challenges, which builds learning. Cerne et al. (2013) stated that leaders who helped their followers develop their PsyCap, helped to build their self-esteem which led to employees trying new things and taking risks. Keating and Heslin (2015) theorized that an employee with a growth mindset was more apt to engage in a challenge than one with a fixed mindset.

It also is a risk to commit to knowing one's inner self better. Branson (2007) studied principals who participated in a program to increase their authentic self. This researcher discovered that it took courage to explore inner values and how those values connected to behaviors. Rego et al. (2012) followed along these lines and identified in their study that there was a link between an authentic leader and followers' well-being and an increase in creativity in the workplace. An increase in creativity was linked to risk-taking, therefore these researchers also supported the idea that authentic leadership increased follower learning.

Fullan (2011) stated that to learn, one must take-risks. For this to happen, the culture must be one in which there is no judgment, especially when trying something new. Leader's should model taking risks for their followers. They can also model learning from mistakes which demonstrates to others a growth mindset approach. Research has been consistent with the message that trust is an important factor for risk-taking (Hanford & Leithwood, 2013; Wahlstrom & Lewis, 2008). Bryk and Schneider (2002) shared that, "... relational trust reduces the sense of vulnerability that school professionals experience" (p. 116). Vulnerability can contribute to one

not wanting to try something new. Overall, trust is an important component for both a growth mindset and building authenticity.

Summary

This literature review addressed implicit theories and authentic leadership and how the two can work together to develop skills to increase authenticity. Dweck (1986) began her study of implicit theories with an interest in motivation and skills. Her curiosity about why students who had similar abilities but displayed much different outcomes in the classroom led to major research on growth and fixed mindset. Most implicit studies focused on elementary students' intelligence, but there is a growing interest in other arenas and with other traits. Elliot and Dweck (1988) also acknowledged that an implicit theory orientation could guide one's goals during intellectual pursuits. These are known as learning and performance goals. Their theory asserted that these goals created either a helpless or a mastery-oriented response to an achievement situation.

Another area of interest for Dweck (2000) was one's response to a student's effort. Her findings encompassed praise focus with two different types: effort and ability. Studies found that subjects who experienced ability praise would choose tasks that were easier, which then would continue their success, whereas subjects who experienced process praise would tend to choose harder tasks that they might fail, which led to continued learning (Dweck, 2000, 2006; Kamins & Dweck, 1999; Mueller & Dweck, 1998). Overall, research illustrated that an individual with a growth mindset tended to have positive results in the arena that was being measured, whether it was academics, social interactions, or judgment of an employee's ability to improve.

Authentic leadership is a relatively newer theory that some researchers consider the “root concept” of positive leadership theories (Avolio & Gardner, 2005; Cerne et al., 2013; Ilies et al., 2005; Luthans & Avolio, 2003; May et al., 2003, Walumbwa et al., 2008). This theory grew out of the positive psychology movement, which was a reaction to the negativity that had been occurring within our society. Authentic leadership targets developing ethically reliable leaders who address what is best for all, instead of what is best for the self. These leaders are continually growing their authenticity while leading others to do the same through their behaviors and actions.

Authentic leadership is composed of four components: self-awareness, balanced processing, moral virtue, and relational transparency. One must continuously work on all four to increase their authenticity; they are interdependent on one another (Walumbwa et al., 2008). An essential component to authentic leadership is that all benefit from the work one puts into growing his skills. Leaders and followers develop their authenticity together over time (Gardner, Avolio, et al., 2005). Followers learn from a leader who demonstrates these four components through his or her behaviors.

Avolio (2010) called for more research on authentic leadership, which was what this dissertation was looking to address. The research question focused on the relationship between authenticity and mindset beliefs. A strong relationship between the two, a strong growth mindset and a high authentic leadership score, would add to the literature for both theories and improve leader skills through easy-to-access tools. Current and incoming leaders can benefit from the belief that growing your mindset can also grow your authenticity.

Ancona and colleagues (2007) researched the myth that one must be a complete leader. Their belief was that it is important not only for leaders to understand they are incomplete, but

also others around them. A leader can demonstrate this “incompleteness” through his or her actions. An “incomplete leader” understands her strengths and weaknesses and works to complete them by adding others to the team who are skilled or by developing better skills. It is important to help leaders understand they are incomplete and to help university programs and district administration to give them ideas on how to develop their leaderships’ deficiencies.

This review established a need to further study that a principal who demonstrates authentic leadership will also display growth mindset qualities. The next chapter introduces the research design, population, instrumentation, and data analysis.

Chapter Three: Methodology

Study Design

Principals throughout the state of Montana were surveyed as part of a non-experimental quantitative study. The primary purpose of this survey study was to learn more about the relationship between a principal's implicit theory of intelligence and his or her authentic leadership by exploring the principal's beliefs, values, and behaviors within the school setting. The relationship between growth mindset and the authentic characteristics a principal feels he or she demonstrates was investigated.

A survey design method was chosen because the information sought was accessible, the ease of reaching each school, the cost-effectiveness of the design, and the expeditious nature of administration. This quantitative study utilized a web-based survey which is, "... an effective mode of survey administration when dealing with closed populations, when probability sampling is not essential, and when the target respondents have access to the necessary technology" (Sue & Ritter, 2012, p. 211). Data were collected via Qualtrics, an online survey site, because all principals have access to email and the internet. Another strength of this collection procedure can be the confidentiality of the information. There is no interviewer and, therefore, respondents feel more honest because they are answering the questions in the online format (Sue & Ritter, 2012). Dillman (2007) also noted that implementation, rather than the survey itself, is important to response rates and multiple contacts with respondents is necessary. The window for response time was two weeks and the respondents were contacted at the start of both weeks with the belief that respondents could not put off the survey with a shorter window and that two emails sent within one week of each other was a quick reminder, but not overwhelming. Finally, this

process also allowed for thoughtful answers in which respondents do not feel pressured to answer quickly (Fowler, 2002).

This study also contained certain limitations. First, cross-sectional surveys examine the information at one point in time, unlike a longitudinal study that gathers data throughout a designated time period. A second weakness was that not all emails were correct. The state educational office was contacted, and they provided a database of potential subjects. The database of principals' contact information was then cross checked directly with schools and/or schools' websites. Alreck and Settle (2004) recognized that some questions may be hard for respondents to answer because they are threatened or embarrassed by them. The survey asked for respondents to self-report answers, which is their perception of how to answer the question. "Human perception and judgment will always be required" (Alreck and Settle, 2004, p. 9). It is important to remember the survey asked principals to report on self-perceptual data. Another limitation for internet surveys was addressed by Dillman (2007), he recognized that they, "... are more limited with regard to their visual stimulation and interaction capabilities" (p. 353). Lastly, respondents could easily dismiss or discontinue the process before it was completed, which led to a low survey response (Sue & Ritter, 2012). Overall, the advantages outweighed the disadvantages.

Population

A database of public-school principals from the state education office was used to email a census of 474 K-12 principals in Montana. The state file is updated frequently, and all emails were verified for the 2018-19 school year by cross checking two databases and by researching schools' websites. If there was no website or the principal and/or email was not on the website, the researcher called the school to authenticate information. The original databases included

principals, superintendents, and supervising teachers of schools. There were 95 supervising teachers, all which were not included in this study. Only administrators with the title of principal or superintendent were included because of the education and licensure that are needed for these positions. A small number of schools are served by a leader with the title, superintendent. This occurs because the school/district is small and there is only one leadership position which is commonly filled by a superintendent who covers both principal and superintendent duties. Even though there was a small number of superintendent/principals included, the leadership position was referred to as a principal throughout the study. An email was sent to each principal explaining the study and asked for his or her participation. A link was included which led the subject to Qualtrics which first asked for consent (see Appendix B) and then led into the 24-item survey. A single stage sampling (Creswell & Creswell, 2018) took place because an index of all principals within the state was compiled. Therefore, there was no random sampling or stratification because all people in the population were asked to participate in the study and those who chose to participate comprised the volunteer sample. Accordingly, the principal is the unit of analysis for this study.

Instrumentation

Demographic Survey

Participants were given a small number of questions to describe the characteristics of the sample (see Appendix C). These questions collected information about gender identity, length in current position, grade levels led, and size of staff.

Theories of Intelligence Scale

Two instruments were employed in this research, the first being the Theories of Intelligence Scale – Self Form for Adults (Dweck, 2000) (see Appendix D). This instrument is

domain specific (Dweck, Hong, & Chiu, 1993; Dweck & Leggett, 1988) and focused on one's intelligence. The belief that people can grow their intelligence, also referred to as growth mindset, allows individuals to continue to try, even if they fail. These individuals recognize there is something to learn. A second belief posits that a person has a fixed amount of intelligence and therefore, will only attempt an activity in which he or she can be successful. This is also known as an entity theory or fixed mindset. People who subscribe to this view also tend to avoid an activity that is hard because they do not want to fail, or they will choose to attempt something easier and be successful. The instrument asked questions to determine which theory/mindset a person endorsed regarding intelligence. There is an eight-question version and a four-question version. The four-question version of the scale was utilized. Previous research has shown that using the eight-item version that focused on both incremental and entity theory questions, led to bias towards incremental answers (Dweck, Chiu, & Hong, 1995). In other words, Levy et al. (1998) found that participants would disagree with the entity theory items more when incremental questions were included, another way of stating this is that the incremental questions persuaded a person towards answering questions with an incremental eye. Dweck, Chiu, and Hong (1995) addressed the question of low internal reliability when there was a low number of questions being asked and they discovered, "the high internal reliabilities of the measures we obtained across studies suggest that this is not a problem" (p. 269). The four-question version asked entity worded inquiries only. For example, one statement in the instrument expressed, "you have a certain amount of intelligence, and you can't really do much to change it" (Dweck, 2000, p. 178). Respondents were then asked to choose which response best fit. Because the questions were negatively worded, the responses were reverse scored. Responses to the four questions were assigned to a Likert format and covered the following

continuous responses: strongly agree (1), agree (2), mostly agree (3), mostly disagree (4), disagree (5), and strongly disagree (6). Scores for each respondent were then averaged to form an overall implicit theory score (Dweck, Chiu, & Hong, 1995). Scores that ranged from one to three fell within the fixed mindset or entity theory series, and scores that ranged from four to six fell within the growth mindset or incremental theory range.

The Theories of Intelligence Scale has been determined reliable (Dweck, Chiu, & Hong, 1995; Levy et al., 1998) and valid (Dweck, 2000; Dweck, Chiu, & Hong, 1995). Dweck, Chiu, and Hong (1995) stated, “the test-retest reliability of the measures over a 2-week interval was .80 for the intelligence theory measure” (p. 270). These authors also identified, “high internal reliability (α ranged from .94 - .98) for the implicit theory of intelligence” (p. 269) via six studies which focused on validation and reliability. Dweck, Chiu, and Hong utilized a three-item version of this instrument, in which all items focused on entity theory worded questions. Another study completed by Levy and colleagues (1998) also established that, “participants’ responses to the implicit person theory items were highly reliable (Cronbach’s $\alpha = .93$)” (p. 1424). These authors also used a three-item scale that concentrated on entity worded questions only. A four-item survey was utilized for this study and was combined with a second instrument, the Authentic Leadership Questionnaire.

Authentic Leadership Questionnaire

The second instrument this study incorporated was the Authentic Leadership Questionnaire or ALQ (Avolio, Gardner, & Walumbwa, 2018). This instrument was developed over several years and is now a published assessment, which academic research can access (see Appendix E). Avolio, Gardner, and Walumbwa (2018) asked 16 questions which focused on the four main components of authentic leadership: relational transparency, ethical/moral, balanced

processing, and self-awareness. Relational transparency “refers to presenting one’s authentic self through openly sharing information and feelings as appropriate for situations” (Avolio, Walumbwa, & Weber, 2009, p. 424). Relational transparency is represented by questions that ask items such as, “as a leader I say exactly what I mean” (Avolio, Gardner, & Walumbwa, 2018, p. 25)¹. Ethical/moral virtue is the ability to make decisions based on what is good for the organization and not just the leader. An authentic leader is guided by his or her values and by the interests of all; the leader is self-less when making decisions (Luthans & Avolio, 2003). Statements on the scale addressed relational transparency with thoughts such as, “as a leader I make decisions based on my core values” (Avolio, Gardner, & Walumbwa, 2018, p. 25)¹. The third component, balanced processing, refers to a person who evaluates all negative and positive information about his or herself. The leader searches for feedback and processes all information objectively (Gardner, Avolio, et al., 2005). Lastly, self-awareness is defined by Avolio and Gardner’s (2005) idea that it, “... is not a destination point, but rather an emerging process where one continually comes to understand his or her unique talents, strengths, sense of purpose, core values, beliefs and desires” (p. 324). Self-awareness is represented by statements like, “as a leader I seek feedback to improve interactions with others” (Avolio, Gardner, & Walumbwa, 2018, p. 25)¹.

Each component is addressed within the 16 questions that are answered by the following continuous responses: not at all (0), once in a while (1), sometimes (2), fairly often (3), and frequently, if not always (4). The self-rater version was utilized and the ALQ was found reliable and valid (Walumbwa et al., 2008). Walumbwa and colleagues (2008) tested this questionnaire and discovered that, “... the individual items were highly correlated with one another (U.S. mean

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= .67; China mean = .69)” and “the results indicated good convergent validity among the scales, suggesting a relationship such that all four scales converge to form a higher-order factor” (p. 7). Walumbwa and colleagues also presented a “... Cronbach’s α scores of .72-.79” (2008, p. 7) for both the US and Chinese samples.

Administering the Survey

The web-based survey program, Qualtrics, was used to gather data. Information about the study and researcher, consent for participation, and a link to the study was included in an email invitation sent to all 474 public education K-12 principals in Montana. The principals had a two-week window to complete the survey and at the beginning of week two a reminder email was sent to all principals. All information was kept confidential. The only identifying information was the email address a principal voluntarily submitted at the end of the survey and these were kept separate from the other data collected. The researcher offered participants who submitted an email address at the end of the survey a chance to win one of two \$50 Amazon gift cards. The two winners were randomly drawn after the survey window closed. All email addresses were destroyed once the drawing took place.

Research Question

The research question for this study was, what was the relationship between a principal’s growth mindset and authentic leadership? Part of alleviating the stress principals are experiencing (Boyland, 2011; West et al., 2014) could be the idea of acknowledging the true self which would enable the principal to lead with authenticity. A growth mindset requires one to believe that they can improve a skill(s) by continually learning (Dweck, 2000, 2006). Authentic leadership theory requires one to continually grow and learn about the self (Walumbwa et al., 2008), hence the idea to evaluate if there was a correlation between these two theories.

Hypotheses

The purpose of this correlational study was to better understand the relationship between a principals' implicit theory of intelligence and his or her authentic leadership. The predictor variable, growth mindset, can be altered if one is aware of their theory of intelligence (Blackwell et al., 2007; Dweck, 2000, 2006; Heslin, Lapham, & Vandewalle, 2005; Heslin & Vandewalle, 2011; Kam et al., 2014; Keating & Heslin, 2015; Romero et al., 2014; Yeager & Dweck, 2012). If principals can work to build a growth mindset, is there a correlation with also developing their authentic leadership or the criterion variable?

Hypothesis – There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of authentic leadership score which included self-awareness, relational transparency, ethical/moral conduct, and balanced processing.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of authentic leadership score which included self-awareness, relational transparency, ethical/moral conduct, and balanced processing.

The data were furthered explored and the relationship between growth mindset and each individual factor of authentic leadership was explored. Therefore, the following hypotheses were examined.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of self-awareness.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of self-awareness.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of balanced processing.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of balanced processing.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of moral virtue.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of moral virtue.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of relational transparency.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of relational transparency.

Data Analysis

The first data presented were the total number of sent email invitations followed by the number of respondents and non-respondents. The demographic information was disaggregated and identified. The next step was to recount the data in an analytical process by describing the medians, standard deviations, and range of scores for the predictor and criterion variables.

Within this step, the missing data were also considered. Response bias was addressed, which acknowledged that those who did not respond may have changed the results if they had (Creswell & Creswell, 2018).

To determine the statistical power of this survey, the sensitivity of the instrument, the effect size, and the decision criteria were addressed. The sensitivity of an instrument is mostly about the sample size (Murphy et al. 2009). The projected sample size needed, with a confidence level of 95%, was approximately $n = 213$. The data were analyzed using the IBM SPSS program and a Spearman Rho test was employed.

Ordinal data were collected with both instruments; therefore, a Spearman Rho measure was utilized. The data are considered ordinal because both instruments used a rank measurement. The Spearman Rho "... is used when a researcher wants to measure the consistency of a relationship between X and Y , independent of the specific form of the relationship" (Gravetter & Wallnau, 2009, p. 542). In this study, the predictor variable was the measure of the principal's implicit theory of intelligence and the criterion variable was the measure of the principal's leader authenticity. The information was added to a scatterplot which was created to observe the correlation of the data points.

Assumptions

There are two assumptions correlational testing must meet. The first is the assumption of random sampling. All K-12 public school principals were invited to participate in the study and they each had an equal opportunity to take part. The second is the assumption of independent observations. All participants' answers were counted only once, and the data did not interfere with another's answers.

Ethical Issues

There was no known harm for participants of this study. The respondents remained confidential and if they chose to submit their email at the end of the survey for a chance to win a gift card, that information was kept separate from the collected data and destroyed after the winners were selected. Participants could stop the survey at any time, without any consequences. The information the participants supplied, including the demographic answers, was not traceable and was only for this study's purposes.

Summary

This quantitative study was cross-sectional in nature and took place in the northwestern state of Montana. The study researched principals' perceptions of their authentic leadership skills and their perceived implicit theory of intelligence. An online survey collected anonymous data through two instruments: The Theories of Intelligence Scale for Adults and the ALQ, both which have been determined to be reliable and valid. Data analysis consisted of descriptive statistics and a Spearman Correlation was used evaluate the relationship between a principal's outcome variable, or growth mindset, and criterion variable, or authentic leadership. Next, chapter four examines the raw data and facts, discusses the sample size, and recaps the statistical procedures used. Lastly, chapter five summarizes the findings and results, discusses the meaning of what was found, and offers recommendations for future research.

Chapter Four: Results

Principals struggle with an increase in parent demands (Fraser & Brock, 2006; Friedman, 2002; Wells, 2013), teachers who are not performing well (Combs et al., 2009; Fraser & Brock, 2006; Friedman, 2002), the pressure of student outcomes on accountability standards (Cohen et al., 2009; Combs et al., 2009; Wells, 2013), and increased paperwork (West et al., 2014).

Tschannen-Moran (2004) discussed the increased expectations for principals, which can lead to increase in stress (West et al., 2014). Overall, the search for tangible tools to help leaders with the increase in requirements and stress for their position led to this study. The purpose of this correlational approach was to better understand the relationship between a principals' implicit theory of intelligence and his or her authentic leadership, which includes four components: self-awareness, moral virtue, balanced processing, and relational transparency.

Descriptive Analysis

Principals throughout the state of Montana were surveyed using a non-experimental quantitative study. An email was sent to 474 administrators inviting them to participate in a survey via Qualtrics, an on-line survey site. The window for response time was two weeks and the respondents were contacted at the start of both weeks and asked to complete the inquiry. Originally, the state Office of Public Instruction's data included both supervising teachers and principals. Only administrators with the title of principal or superintendent/principal were included because of the education and licensure that is needed for this position. A total of 95 supervising teachers were not incorporated into this research, therefore a total of 84.00% of Montana's public-school building leaders were sent invitations to participate. The average size of the school with a supervising teacher was 15 students. Of the 474 principals sent invitations, 128 principals responded. Three did not consent to participation in the study and 13 did not complete

the survey. Consequently, a total of 112 principals completed the inquiry, or 24.00% of total invitations sent out. The first week of collecting responses 61.00% or 68 of the respondents completed the survey and 39.00% or 44 completed it the second week. Data were collected and stored separately from respondents' emails. All emails were destroyed after a drawing for two Amazon gift cards were awarded, therefore no information can be traced to a specific principal or school. All data were exported from Qualtrics into excel spreadsheets and an original copy was kept, unaltered, without emails.

Participants were given a small number of questions to learn more about the demographics of the sample (see Appendix C). Principals answered items that collected information about gender identity, length in current position, grade levels led, and size of staff. Out of 112 respondents, 57 identified as female, which is 51.00% of the total, and 55 identified as male, which is 49.00% of the total. Participants were then asked, "How long have you been a principal?" A total of four options were available: 0-5 years, 6-10 years, 11-15 years, and 15+ years. The largest number of principals to respond were the newest to the role (see Table 1).

Table 1

Years as a School Principal

Principals	0-5	6-10	11-15	15+
Total	41	37	12	22
% of total	36	33	11	20

The next demographic question asked the principals, “What grades do you lead?” Respondents were expected to respond to the open-ended question with a number (see Table 2). One participant, or 1.00% of the total, responded with an NA, which meant that question was not applicable. There was a wide range of responses, which are broken down in Tables 3 and 4. A total of 22 principals worked within a kindergarten through 12th grade school, this accounted for 19.60% of the total. Over half of the respondents, or 66, worked with grade levels between kindergarten and eighth grade, which is 58.90% of the total.

Table 2*Grade Levels*

Principals	N/A	K-12	K-8	6-12	Total
Total	1	22	66	23	112
% of total	1.00	19.60	58.90	20.50	100.00

Table 3*K-8 Grade Levels Distributed*

Principals	K-2	K-3	K-4	K-5	K-6	K-8
Total	2	1	3	18	12	13
% of total	1.78	0.90	2.67	16.07	10.71	11.61

Principals	1	3-4	3-5	5-8	6-8	7-8	Total
Total	3	1	2	3	6	2	66
% of total	2.67	0.90	1.78	2.67	5.36	1.78	58.90

Table 4*6-12 Grade Levels Distributed*

Principals	6-12	7-12	8-12	9-12	Total
Total	2	9	1	11	23
% of total	1.78	8.04	0.90	9.82	20.50

The last demographic question participants responded to was, “What is the size of your staff?” This was an open-ended question, which allowed principals to put a specific number in the response (see Table 5). Overall, 94 principals worked with staff size between 1-50, which was 83.93% of the total responses. There were 14 principals who worked with staff size between 51-100, which was 12.50% of the total responses and four principals worked with a staff size of over 100 people, which was 3.57 % of the total. Another way to analyze the responses is to compare them to the sizes of schools in the state of Montana. The Office of Public Instruction (2019b) noted there are a little over one million people in the entire state and according to their statistics from the 2018-2019 school year, there are 823 schools in the state of Montana (see Table 6). Those 823 schools can be broken down further with the majority, or 320 public schools, serving less than 50 students. Most of the responses were from schools serving 50 students or less.

Table 5*Number of Staff Members*

Schools	1-50	51-100	100+	Total
Total	94	14	4	112
% of total	83.93	12.50	3.57	100.00

Table 6*2018-2019 Montana School Size*

Schools	1-50	50-99	100-249	250-499	500+	Total
Total	320	124	165	158	56	823
% of total	38.88	15.07	20.05	19.20	6.80	100.00

Research Question

This study was concerned with helping find accessible tools for administrators to use to build their authenticity. One idea was to study the relationship between growth mindset and authentic leadership. The research question for this study was what is the relationship between a principal's growth mindset and authentic leadership? One belief is that part of alleviating stress could be to acknowledge the true self, which would enable a principal to lead with authenticity.

Hypotheses

The purpose of this correlational study was to research if a principal's self-acknowledged authenticity had any relationship to their theories of intelligence. The predictor variable, growth mindset, can be altered if one is aware of their theory of intelligence (Blackwell et al., 2007; Dweck, 2000, 2006; Heslin, Lapham, & Vandewalle, 2005; Heslin & Vandewalle, 2011; Kam et al., 2014; Keating & Heslin, 2015; Romero et al., 2014; Yeager & Dweck, 2012). If principals can work to build a growth mindset, they then can also develop their authentic leadership or the criterion variable.

Hypothesis – There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of authentic leadership score which included self-awareness, relational transparency, ethical/moral conduct, and balanced processing.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of authentic leadership score which included self-awareness, relational transparency, ethical/moral conduct, and balanced processing.

The data were furthered explored and the relationship between growth mindset and each individual factor of authentic leadership was explored. Therefore, the following hypotheses were examined.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of self-awareness.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of self-awareness.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of balanced processing.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of balanced processing.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of moral virtue.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of moral virtue.

Hypothesis - There will be a statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of relational transparency.

Null Hypothesis – There was no statistically significant relationship between a principal who demonstrated a growth mindset and his or her strength of the authentic leadership factor of relational transparency.

Instrumentation

Two instruments were chosen to gather the data for this research. The first, The Theories of Intelligence Scale – Self Form for Adults (Dweck, 2000) (see Appendix D), obtained a score and assigned a person to either a fixed mindset or growth mindset. A four-question version, instead of the eight-question version, was applied. The second instrument employed was the

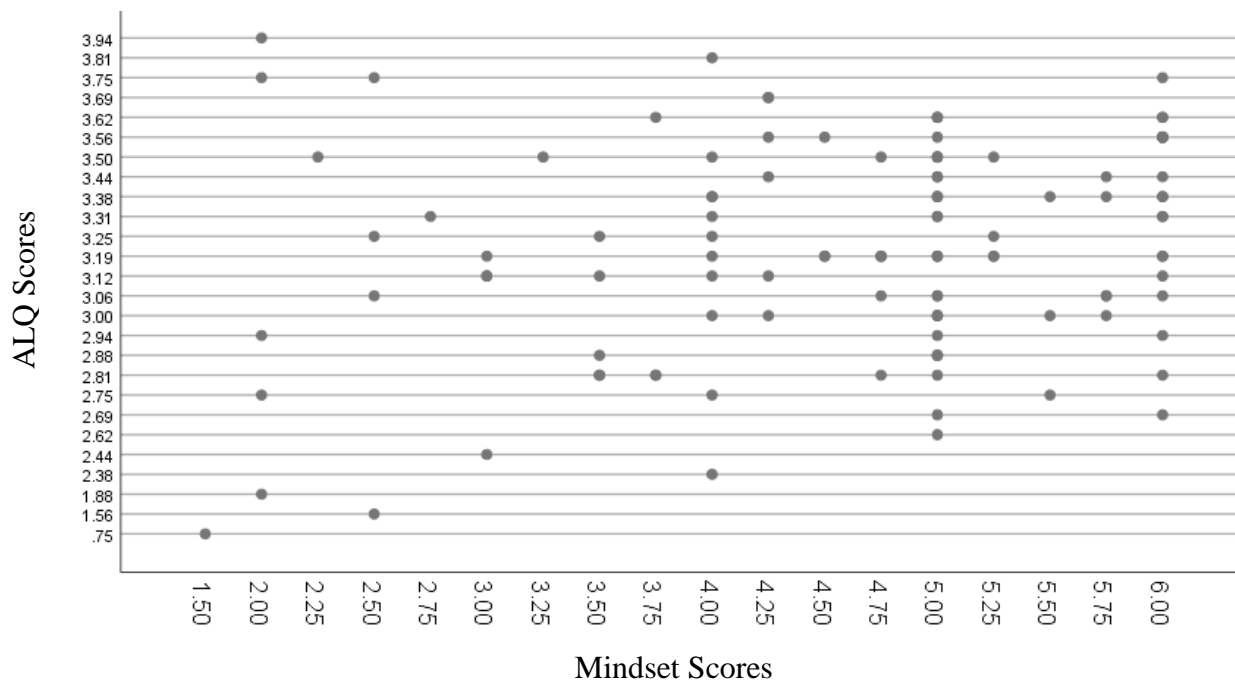
Authentic Leadership Questionnaire or ALQ (Avolio, Gardner, & Walumbwa, 2018) (see Appendix E). The ALQ contained 16 questions which addressed four factors: self-awareness, balanced processing, moral virtue, and relational transparency. There are two versions; one that self-rates and one that has another person rate the leader. Self-rating forms were used for both instruments. Permission was obtained to work with both instruments and ordinal data were collected to use for statistical testing.

Statistical Test and Data

A Spearman's Rho test was utilized due to the data being ordinal or categorical. This correlational test is a statistical measure of the relationship between variables. The Spearman's Rho was run to test the relationship between a principal's mindset and his or her self-evaluation of authentic leadership. There was a small (Cohen, 1962) positive correlation between the two variables ($r = .17$, $n = 112$, $p = .08$) low measurement results of a principal's mindset associated with low scores on the authentic leadership self-examination. A p value of .08 was calculated which is more than the $\alpha = .05$, therefore the test results were not statistically significant, and the data failed to reject the null hypothesis. The p value also indicated that the relationship that exists between the two variables may have been due to chance. The results can be reviewed through the scatterplot in Table 7.

Table 7

Scatterplot for Authentic Leadership Questionnaire by Mindset



The median for the mindset score was 5.00, which falls within the growth mindset scope.

The scores range from one to six. Any scores between one and three are considered a fixed mindset and scores that fall in the four to six range are considered a growth mindset. The median score for the authentic leadership construct was 3.20. Those scores range from zero, or no authentic leadership abilities, to four or leading with your truest authentic self. Next, the range of scores for the mindset outcomes started at 1.50 and ended at 6.00. The range for the authentic leadership scores fluctuated from .75 to 3.94. Both variables covered the spectrum of scores that were possible. Another way to describe this is that the scores represented all possible options for each scale. The standard deviation for the mindset score was 1.61 and the standard deviation for the authentic leadership score was 0.43. Lastly, 24.00%, or $n = 112$, responded to

this study. That leaves 76.00% of Montana principals not having a voice in this outcome. That missing data could have changed the results (Creswell & Creswell, 2018).

As stated earlier, there was a small positive correlation between the two variables: mindset and authentic leadership scores. Middlemis Maher and colleagues (2013) explained that many studies reported statistical significance but excluded the effect size. These authors elaborated that especially in educational research, describing the strength of the relationship is as important as statistical significance, which represents how reliable the given results can be detected. Using the Raosoft calculator (2004), the projected sample size needed for this study, with a confidence level of 95.00%, was approximately $n = 213$. The sample size obtained was $n = 112$, which equaled a confidence level of 77.00%.

Data Analyzed Further

While there is no strong positive correlation between a principal who demonstrated a growth mindset when leading with authenticity, there could be a relationship between one of the four factors of authentic leadership and growth mindset. All four factors are required when investigating an authentic leadership score (Walumbwa et al., 2008), but does growth mindset relate to self-awareness, balanced processing, moral virtue, or relational transparency individually? The following data explored those relationships.

Self-Awareness.

Self-awareness is an understanding of one's strengths, weaknesses, values, traits, feelings, and how his or her behavior affects others (Kernis, 2003). The self-awareness portion of the authentic leadership questionnaire consisted of four questions. There was a weak positive correlation between growth mindset and self-awareness ($r = .14$, $n = 112$, $p = .13$) (see Table 8).

A p value of .13 was calculated which exceeded the $\alpha = .05$, therefore the test results were not statistically significant.

Balanced Processing.

Balanced processing refers to a person who evaluates all negative and positive information about his or herself. The leader searches for feedback and processes all information objectively (Gardner, Avolio, et al., 2005). This factor of the authentic leadership questionnaire consisted of three questions. There was a weak positive correlation between growth mindset and self-awareness ($r = 0.15$, $n = 112$, $p = .12$) (see Table 8). A p value of .15 was calculated which exceeded the $\alpha = .05$, therefore the test results were not statistically significant.

Moral Virtue.

Moral virtue is the ability to make decisions based on what is good for the community and not just the leader. Authentic leaders are guided by their values and by the interests of all; leaders are selfless when making decisions (Luthans & Avolio, 2003). There was a weak positive correlation between growth mindset and self-awareness ($r = .06$, $n = 112$, $p = .56$) (see Table 8). A p value of .56 was calculated which exceeded the $\alpha = .05$, therefore the test results were not statistically significant.

Relational Transparency.

Relational transparency, “refers to presenting one’s authentic self through openly sharing information and feelings as appropriate for situations” (Avolio, Walumbwa, & Weber, 2009, p. 424). There was a weak positive correlation between growth mindset and self-awareness ($r = .14$, $n = 112$, $p = .15$) (see Table 8). A p value of .15 was calculated which exceeded the $\alpha = .05$, therefore the test results were not statistically significant.

Table 8*Analysis of Authentic Leadership Theory's Four Constructs*

Four Constructs	<i>R</i>	<i>n</i>	<i>P</i>
Self-awareness	.14	112	.13
Balanced processing	.15	112	.12
Moral virtue	.06	112	.56
Relational transparency	.14	112	.15

Overall, these results were consistent with the original data representing the relationship between mindset and authentic leadership scores. One interesting finding, self-awareness, balanced processing, and relational transparency all had very similar outcomes. Moral virtue's results, although it also had shown a weak positive correlation, were much closer to zero than the other three. The *p* value was also much weaker. Another way to look at the results is that of the four factors, the growth mindset component least related to authentic leadership was moral virtue.

Assumptions

There are two assumptions correlational testing must meet. The first is the assumption of random sampling which was not met. Even though all K-12 public school principals were invited to participate in the study, and each had an equal opportunity to take part, the volunteer sample was not necessarily random. The second is the assumption of independent observations, which was met. All participants' answers were counted only once, and the data did not interfere with another's answers.

Summary

The purpose of this research was to explore the relationship between growth mindset and authentic leadership. The quantitative survey was sent out through an email to all 474 principals within the state of Montana. A database was obtained from the state OPI and the information was verified before the emails were sent. There was a brief window of two weeks to complete the responses and a reminder email was sent out the second week. A total of 112 participants completed the survey, which was 24% of the principal population. A majority of principals who responded were newer to the position and worked within buildings that had less than 50 staff members. A Spearman's Rho test was utilized as the data were ordinal and the investigation explored the relationship between growth mindset and authentic leadership. The results showed that there was a weak positive relationship between the two variables. Therefore, the null hypothesis was not rejected. The next step was to further explore the relationship between growth mindset and each of the four factors of authentic leadership: self-awareness, balanced processing, moral virtue, and relational transparency. Keeping in line with the original results, all four factors individually also showed a weak positive relationship with growth mindset.

Chapter Five: Discussion

Principals are needing tools and professional development to help with the overwhelming nature of the position.

Being a school principal is more challenging than ever, in part because of an expanding set of responsibilities, technological change, and growing student needs that are characteristic of a diversifying nation struggling to provide equal opportunities to all its students. (Manna, 2015, p. 12)

They require something that is quick and easy due to the stress they are feeling (Boyland, 2011). One understanding is that building a growth mindset can help with developing authentic leadership skills. The purpose of this correlational quantitative study was to better understand the relationship between a principals' implicit theory of intelligence and his or her authentic leadership, which included four components: self-awareness, moral virtue, balanced processing, and relational transparency. This chapter discusses the data and how it is linked to the results of the literature review and presents implications for current practices and future studies.

Conclusions of Data Analysis

The research question for this study was, what was the relationship between growth mindset and authentic leadership? Data were collected via an email inviting all 474 K-12 public school principals in the state of Montana to participate in a survey through Qualtrics. Two instruments were utilized, and demographic questions were asked to learn more about the sample. The first instrument, The Theories of Intelligence Scale – Self Form for Adults (Dweck, 2000), discovered whether a principal embraced a growth or fixed mindset. The second instrument, the Authentic Leadership Questionnaire or ALQ (Avolio, Gardner, & Walumbwa, 2018), asked questions that covered the four factors that comprise authentic leadership: self-

awareness, balanced processing, moral virtue, and relational transparency. Respondents answered a self-rating version for both instruments.

The instruments utilized scale scores, therefore ordinal data were collected, and a Spearman's Rho test was applied. As the data analysis indicated, there was a weak positive relationship between growth mindset and authentic leadership which indicates there was a weak or small effect size for the relationship. Although the relationship has weak strength, there was a positive nature to it, which means that if one increased, so did the other. Next, the mindset data were compared with each of the four components of authentic leadership: self-awareness, balanced processing, moral virtue, and relational transparency. The results were consistent with the original data, all showed a weak positive correlation with growth mindset and statistical significance was not met. One interesting note is that of the four, moral virtue was much closer to zero, or no relationship, than the other three components.

Another way to review the data was to locate the median scores for both mindset and the authentic leadership construct. Scores on the mindset scale range from one to six, with one to three reflecting a fixed mindset and four to six reflecting a growth mindset. The median score was 5, which is a solid growth mindset score. Scores for the authentic leadership scale range from zero to four, zero being no authenticity and four displaying true authentic leadership. The median score for authentic leadership was 3.20.

Research has implied a link between the implicit theories of intelligence and authentic leadership theory, but there has never been an approach to research the relationship between the two. Some studies related both theories to each other and other research linked one of the four components of authentic leadership theory to the implicit theories of intelligence. Diddams and Chang (2012) stated that, "... the positive orientation in authenticity creates a dilemma for

personal growth” (p. 595) and suggested that one must have a growth mindset to develop as an authentic leader. These authors continued to say that, “viewing authenticity only through positive lenses may actually increase defensiveness in the face of weaknesses” (2012, p. 595). Their premise was that one cannot be truly authentic unless he evaluates himself and the world with the belief that people can learn new things and improve upon their abilities. Ilies and colleagues (2005) propositioned that, “Leaders with (a) greater integrity, and (b) an incremental theory of ability (reflected in a mastery or learning goal orientation) will display greater unbiased processing” (p. 380). They referred to balanced processing as “unbiased processing” and declared that by adopting an incremental theory, or growth mindset, leaders would be better able to accurately assess their own skills, evaluate all information, and make decisions that would help to develop all those who have a stake in the organization.

Another researcher who has embraced the idea that growth mindset is at the core of a developing leader is Fullan (2011). He believed that a person learned through repetition, progress occurred overtime, and that a growth mindset allowed for this. Fullan explained that a fixed mindset led people to believe some were better than others and to make judgments, which inhibited leaders and their staff from taking risks. He concluded, “you take risks in order to learn” (2011, p. 80) and “risk and effort are worth the possibility of failing because you might learn something, whereas with fixed-mindset people the risk is high because failure would reveal their inadequacies” (2011, p. 115). Lastly, Fullan postulated that leaders needed to help staff build their own growth mindsets.

Implications for Practice

Even though this study found a weak relationship between authentic leadership and growth mindset, there is still plenty of research that supports cultivating both. Developing a

growth mindset begins with understanding that all people can increase neural connections (Kolb & Whishaw, 1998) and learn new things. Dweck (2006) stated that over time practice led to learning and growing. Administrators can access online implicit theories of intelligence information, including a growth mindset scale they can take themselves and give to their staff. If they are feeling like they have time, Dweck's (2006) book is a helpful read and full of valuable tools.

As seen above, there has been hints at a connection between growth mindset and authentic leadership (Diddams & Chang, 2012; Ilies et al., 2005). One could familiarize the self with the four components of authentic leadership; self-awareness, balanced processing, moral virtue, and relational transparency and start small by working on one or two skills at a time. For instance, one can recognize when judgments are being made and work towards eliminating those. When judgments occur, one tends to lean towards a fixed mindset (Dweck, 2000; Dweck, Chiu, & Hong, 1995; Dweck, Hong, & Chiu, 1993; Levy et al., 1998). Judgments can add to building hierarchy (Fullan, 2011) and/or increasing one's fear (Ray & Myers, 1989). Another example is to develop better listening skills. Avolio and Luthans (2006) recognized that leaders who showed interest, demonstrated listening skills with their staff members and reflected what they were hearing helped to promote trust. This ability to be present with others can help to build relationships and those relationships can help build a positive culture (Avolio & Luthans, 2006; Fullan, 2011). Another bonus is that staff felt more connected to principals when they felt heard (Bird et al., 2009). An additional suggestion is for principals to learn about praise and how that could work to help build a growth mindset among their staff. Dweck's (2006) research on praise focused on effort verses outcome praise. Learning the difference between the two could help a leader to better focus their positive affirmations. A last suggestion is for principals to

embrace uncertainty to push themselves out of a traditional way of thinking (Myers, 2009) which could support creative problem solving. A growth mindset can help to do this because a principal would believe that they can grow and take chances. While these are a few of the suggestions for principals to begin with, there is more to learn once they start the process.

Implications for Further Research

One limitation of the study was that the data were only collected from one source, the principal, through a self-report form. Avolio, Gardner, & Walumbwa (2018) argued "... the authentic leadership construct, while based on the concept of authenticity, also reflects the degree to which others see the individual as being true to their self." There are few studies that focused on the authentic leadership of principals in public school settings and none that centered on growth mindset. A small number of studies that have concentrated on principal authenticity in schools measured both principal perception of authenticity and teacher perception of principal authenticity and these studies found the two perceptions did not always align (Bird et al., 2009; Bird, et al., 2012; Hsieh & Wang, 2015). It would be important for both the principal and staff members to complete the Authentic Leadership Questionnaire when its focus is assessing the principal. Bird and colleagues (2009) stated, "... researchers seem well advised to seek authenticity measures from subordinates and not to rely solely on self-reports of leaders when studying the construct of authenticity" (p. 165). This suggestion holds the principal accountable with information that may not match his or her own thoughts. It would be too valuable to evaluate the two perspectives of authentic leadership with the hopes that true authentic leaders will understand their staff thoughts about their own authentic leadership and that growth mindset will drive that authentic practice.

Pannell and colleagues (2013) studied leadership behaviors and the relationship between a principal's self-rater tool and the perception of the principal's leadership behavior by certified staff members with the same tool. They discovered that if a school was high performing, then the principal's rating and the staff rating were similar. If the school was low performing, then the principal's self-rating tended to be higher than the staff rating. This example of unbalanced beliefs and feelings can cause a lack of trust among staff (Bryk & Schneider, 2002) and is another example for adding staff perception when researching principal efficacy.

A second limitation for this research was the number of participants. This voluntary sample consisted of 24% of the total population of Montana principals. There was only a two-week time period given to collect data, perhaps more principals would have completed the instrument if there was more time. Also, emails were sent to principals inviting them to participate at the end of the school year. Another suggestion would be to collect data at a time when principals are fresher, reasonably at the beginning of a school year. Lastly, this research could be opened to more states, which would increase the data pool.

Another suggestion for future research is to add a stress level instrument. One of the reasons for this study was the stress that principals feel in today's job (Boyland, 2011; Manna, 2015; West et al., 2014). Boyland (2011) explained, "... an entire school can be negatively affected when a principal becomes ill or can no longer perform at optimal levels due to chronic stress" (p. 2). It is clear that principals need tools to help with this mental health issue, therefore it would be interesting to study the relationship between stress level, authentic leadership, and growth mindset.

A different approach could be for the study to proceed in two stages. The first stage would entail measuring the principal's growth mindset. The second stage would then inquire

about the principal's leadership style by utilizing the Multiphasic Leadership Questionnaire, or MLQ. This questionnaire measures a range of leadership styles and it would be interesting to see if growth mindset relates to one better over another.

Lastly, district administration and university programs could use the tools offered within this dissertation to learn about and increase growth mindset and authentic leadership among current and aspiring principals. Overall health and wellness are critical for principal retention (West et al., 2014), therefore finding positive, useful tools would be important for programs.

Summary

This is the first time that a study has researched the correlation between implicit theories of intelligence and the authentic leadership theory in a school setting. Although the null hypothesis was not rejected, there is still plenty of useful and researched information provided throughout this dissertation which can start a conversation about practical tools for administrators. There have been times when researchers have discussed the two theories and how one can bolster the other, which supports the call for further research in this area. These results are exciting and can be of use to a position that continues to encounter more stressors and demands (Combs et al., 2009; Fraser & Brock, 2006; Friedman, 2002).

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APPENDIX A

The Time Management Matrix (Covey, 1989) Permission

Re: For Educators and Librarians (simonandschuster.com)

Perez, Ana

<ana.perez@simonandschuster.

com> on behalf of

S&S Education Library <education.library@simonandschuster.com>

Wed 10/23/2019 2:06 PM

To: erica.zins@umontana.edu <erica.zins@umontana.edu>

Hi,

If it is just a few lines from the book, you have our permission to use as long as you include the copyright line as it is printed behind the title page.

Thank you,

S&S Education & Library

From: "erica.zins@umontana.edu"

<erica.zins@umontana.edu> **Reply-To:**

"erica.zins@umontana.edu"

<erica.zins@umontana.edu> **Date:** Saturday,

October 19, 2019 at 11:14 PM

To: S&S Education Library <education.library@simonandschuster.com>

Subject: For Educators and Librarians (simonandschuster.com)

Contact Us

Requested by ----- Name: Erica Zins

Email:

erica.zins@um

ontana.edu

Topic: For

Educators and

Librarians

Comments/Request: I am a doctoral candidate working on my dissertation. I would like to ask permission to use a matrix from Stephen Covey's 1989 book, The Seven Habits of Highly Effective People. Who should I direct my letter towards? Thank you, Erica Zins

Appendix B

Consent Form

SUBJECT INFORMATION AND INFORMED CONSENT

Study Title: Becoming a Better Principal: The Relationship between Public School Principals' Authentic leadership and Their Implicit Theory of Intelligence

Investigator: Erica Zins, Doctoral Candidate
Educational Leadership - University of Montana
erica.zins@umontana.edu
406-360-1605
Faculty Advisor: Dr. John Matt, Educational Leadership - University of Montana
john.matt@mso.umt.edu

Purpose: You are invited to participate in a 24-question on-line survey that will take less than 10 minutes to complete. You have been selected from the State Office of Public Instruction's schools' database for this study. For my dissertation, I am conducting a quantitative study that explores if there is a relationship between a growth mindset and a principal's authentic skills.

Payment for Participation: As an incentive for participating in this study, two randomly drawn emails will be given \$50 Amazon gift certificates. Participants will have the option to submit their email at the end of the survey.

Risk/Discomforts: There is no anticipated discomfort for those contributing to this study, so risk to the participants is minimal. The respondents will remain confidential and if they choose to give their email at the end for a chance to win a gift card, that information will be kept separate from the collected data. Participants can stop the questionnaire at any time, without any consequences. The information the participants supply, including the demographic answers, will not be traceable and is only for study purposes.

Benefits: Although you may not directly benefit from taking part in this study, there are several benefits to completing this survey. First, this research will provide principals with a guide to build their growth mindset in the domain of authentic leadership and improve their practice of living and leading with purpose. Second, principals can develop skills to absorb positive and negative feedback to guide their self-awareness, relational transparency, moral virtue and balanced processing. Third, this research will add to building positive school cultures by encouraging principals to develop themselves, which contributes to the good of the school (Polizzi & Frick, 2012). Fourth, information gathered can improve training programs to help recognize and develop growth mindset in combination with authentic leadership within future administration. Fifth, district personnel can use this research as a guide to assess and develop potential principals' authentic leadership and growth mindset. Sixth, this research will contribute to existing literature by adding another empirical study that validates the Authentic Leadership Questionnaire (Neider & Schriesheim, 2011; Walumbwa, Avolio, Gardner, Wernsing, &

Peterson, 2008) and help to operationalize the Authentic Leadership construct (Avolio & Gardner, 2005; Randolph-Seng, & Gardner, 2012; Shamir & Eilam, 2005; Walumbwa et al., 2008). Lastly, to this researcher's knowledge, the relationship between growth mindset and authentic leadership has not been researched among principals.

Confidentiality: Your records will be kept confidential and will not be released without your consent except as required by law. All information will be kept confidential. The only identifying information will be the email address a principal can submit at the end of the survey and these will be kept separately from the other data collected.

Voluntary Participation/Withdrawal: You may refuse to take part in or you may withdraw from the study at any time without penalty or loss of benefits to which you are normally entitled.

Questions: If you have any questions about the research, please contact the Principal Investigator: Erica Zins, via email at Erica.zins@umontana.edu or the faculty advisor, Dr. John Matt, at john.matt@mso.umt.edu. If you have any questions regarding your rights as a research subject, contact the UM Institutional Review Board (IRB) at (406) 243-6672.

Statement of Your Consent: I have read the above description of this research study. I have been informed of the risks and benefits involved, and all my questions have been answered to my satisfaction. Furthermore, I have been assured that any future questions I may have will also be answered by a member of the research team. I voluntarily agree to take part in this study. Please print or save a copy of this page for your records.

I have read the above information and agree to participate in this research project.

I consent to complete this survey

No, I am not going to complete the survey

Appendix C
Demographic Survey

Principal –

1. What best describes your gender?
Female
Male
Prefer not to answer
Prefer to self-describe _____

2. How long have you been a principal?
0-5 years
6-10 years
11-15 years
15+ years

3. What grades do you lead?

4. What is the size of your staff?

Appendix D

The Theories of Intelligence Scale – Self Form for Adults (Dweck, 2000)

Scale – Strongly agree, Agree, Mostly agree, Mostly disagree, Disagree, Strongly disagree

1.0-6.0

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.
3. To be honest, you can't really change how intelligent you are.
4. You can learn new things, but you can't really change your basic intelligence.

Appendix E

Authentic Leadership Questionnaire Permission

Erica Zins



To whom it may concern,

This letter is to grant permission for Erica Zins to use the following copyright material for his/her research:

Instrument: ***Authentic Leadership Questionnaire (ALQ)***

Authors: ***Bruce J. Avolio, William L. Gardner, and Fred O. Walumbwa***

Copyright: ***2007 by Bruce J. Avolio, William L. Gardner, and Fred O. Walumbwa***

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "K. Walumbwa".

Mind Garden, Inc.
www.mindgarden.com

APPENDIX F

The Theories of Intelligence Scale – Self Form for Adults (Dweck, 2000) Permission

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Author/Editor	Dweck, Carol S.	Rightsholder	Taylor & Francis Group LLC - Books
Date	12/31/1999	Publication Type	Book
Language	English		

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NEW WORK DETAILS

Title	Becoming a Better Principal: The Relationship between Public School Principals' Authentic Leadership and Their Implicit Theory of Intelligence.	Institution name	University of Montana
Instructor name	Erica Zins	Expected presentation date	2019-12-16

ADDITIONAL DETAILS

Order reference number	N/A	The requesting person / organization to appear on the license	Erica Zins
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Editor of portion(s)	NA	Author of portion(s)	Dweck, Carol S.
Volume of serial or monograph	NA	Issue, if republishing an article from a serial	N/A
Page or page range of portion	178 - Theories of Intelligence Scale-Self Form	Publication date of portion	1999-12-31