THE RELATIONSHIP BETWEEN THE GOAL ORIENTATIONS OF EDUCATIONAL

PERSONNEL AND THEIR PRACTICAL IMPLICIT BELIEFS ABOUT STUDENTS

A Dissertation

Presented to

The Faculty of the Education Department

Carson-Newman University

In Partial Fulfillment

Of the

Requirements for the Degree

Doctor of Education

By

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March 30, 2018

CARSON-NEWMAN
U N I V E R S I T Y

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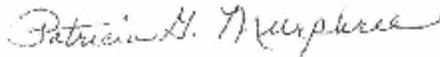
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Abstract

The purpose of this study was to further understanding concerning how the goal orientations and implicit ability beliefs of independent school personnel affect their perceptions of student capability for academic success. The quantitative study assessed the goal orientation of middle school educators and admissions counselors in independent schools and then compared it to their feedback concerning beliefs about the success potential of hypothetical students. Participant beliefs about ability range from a fixed mindset, believing that ability is innate, to a growth mindset, believing that ability is malleable (Dweck, 2006). Mindset is often manifested through one's goal orientation, or motivation for achievement (Dweck & Leggett, 1988). Though much evidence exists concerning the benefits of a growth mindset in students, researchers are just beginning to understand how educational personnel are influenced by their own mindsets and how teachers, in turn, influence the mindsets of their students. Results of the present study indicate moderate associations between the variables of goal orientation and mindset concerning student success potential among independent school personnel. Significant differences were also found between the mean mindset and mastery and performance goal orientation scores based on participants' years of experience as well as when comparing admissions counselors and teaching faculty.

Keywords: mindset, implicit beliefs, achievement goal orientation, academic success, independent school admissions

Acknowledgments

A special thank you to my committee for your time, energy, and valuable feedback throughout this process: Dr. Sarah Cates, Dr. Patricia Murphree, and Dr. P. Mark Taylor. Although I never formally thanked Dr. Deborah Hayes for her guidance and patience with me, I hope she knew how much I appreciated her investment in my education, her calming influence, and her sense of humor.

I must also acknowledge Dr. Christy Walker for proofreading my work and Dr. Anne Gutshall for granting permission to use her student scenarios.

Thanks also to Mike Drew for introducing me to the work of Carol Dweck, for always giving me time to process, and for continuing to feed my obsession with all the latest research.

A big thank you to my in-laws as well. You have taken care of the girls, the animals, and our dinner more times than I can count. Knowing that you are only a phone call away has been a privilege I will probably continue to abuse.

I would also be remiss if I neglected to thank my children and spouse. Thank you for supporting me and inspiring me. I have left you to fend for yourselves far too often over the last three years. I hope to commence my creative cooking endeavors soon!

Finally, I never would have made it this far if not for the example set by my parents, Tommy and Jana Preston. As a young child, I remember my father studying Greek and Hebrew while in seminary. When I was a teenager, my mother went back to school. She went back again after I was married with kids of my own. My parents exemplify life-long learning and have always encouraged their children to follow their passions. Thank you for believing in me and letting me figure out who I wanted to be.

Dedication

This is dedicated to my family for their love and support: to my children, Ellie and Gracie, for understanding when I needed to work on papers all weekend and especially to my husband, Tim. You are so many things to so many people - Dad, Bobo, Sarge, handyman, band member – but you still make time to be my Timmy. I don't know how you do it all, but I will be forever grateful that you choose to share your life with me!

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CHAPTER ONE

Purpose and Organization

Introduction and Background of the Study

From the Common School Movement back in the 1800's to the Excellence in Education Movement following the publication of *A Nation at Risk* on to the Restructuring Movement of the Bush Administration, the educational system of the United States is no stranger to school reform initiatives (Church & Sedlak, 1976; DuFour & Eaker, 1998). Given the rate of technological and scientific change, it became increasingly important that schools prepare students to be lifelong, resilient learners (Lüftenegger, Tran, Bardach, Schober, & Spiel, 2017). However, community trust in public education continued to deteriorate. School reform initiatives, by their very existence, highlight a growing consensus that schools do not always succeed in their primary mission to develop a love of learning in students. Achievement disparities instigate increasing angst concerning the ability of American students to remain competitive in a global economy, and the fact that new reforms continue to surface is a testament to the difficulty of pinpointing a solution (Darling-Hammond, 2010). Dissatisfaction with the public education system led many parents to look toward private school options for their children (Schuster, 2009). In response, private schools worked to improve marketing and to make tuition more affordable for families. The admissions process for independent schools, defined by the National Association of Independent Schools (NAIS) as non-profit private schools governed by a board of trustees and primarily supported through tuition revenue and charitable giving, became even more competitive as more parents looked to independent schools for their smaller class sizes and elevated academic standards (NAIS, 2017; Schuster, 2009).

School improvement is clearly a complex issue, and as lawmakers and educational administrators across the country felt the pressure to ensure that the educational system of the United States measures up, many efforts to reform schools attempted to break the problem down to the common denominator. Often that simplest factor is determined to be the classroom teacher (Senechal et al., 2016). As new standards for student achievement were enacted across many states, more and more people focused on the effect of the individual teacher on student success (National Commission on Teaching and America's Future, 1996). Classroom characteristics created by teachers vary widely and lead children to develop different conceptualizations regarding the nature of intelligence and the purpose of learning (Lüftenegger et al., 2017). States and local districts developed policies and programs designed to improve the instructional practices of educators as well as teacher recruitment, education, certification, and professional development while simultaneously demanding improved student outcomes (Darling-Hammond, 1997). Being tasked with such a heavy burden resulted in a significant drop in teacher job satisfaction and retention (MetLife, 2012; Senechal et al., 2016). Given the state of teacher morale, it was not surprising that many educators felt defensive about the lack of progress met through many school reform efforts and pointed to external factors as being the cause of the failure. One such factor, a lack of motivation in students, was often cited as a primary contributor to achievement shortcomings (DuFour & Eaker, 1998).

Statement of the Problem

Student motivation is a primary element that influences academic performance (Turner, Meyer, Midgley, & Patrick, 2003). Achievement goal theory posits that the perceived purpose of achievement attainment reflects the meaning attributed to the achievement. Thus, how motivated a student appears is often a function of the student's goal orientation, reflecting the perceived

purpose of the behavior being mastery or performance (Weiner, 1986). A mastery goal orientation reflects the perception that the purpose of achievement is to develop understanding, discernment, or proficiency. Alternatively, a performance goal orientation involves the perception that the purpose of attainment is to demonstrate success or avoid appearing unsuccessful (Elliot, 2005; Turner et al., 2003). Whether or not students participate and persist in educational activities is a function of their goal orientations (Pintrich, 2003). Though student motivation is frequently presented as being beyond the control of teachers, teacher behavior affects the goal orientations of students (Vedder-Weiss & Fortus, 2013). What teachers communicate, explicitly and implicitly, regarding the reason for achievement directly impacts student beliefs and behavior (Ames, 1992; Turner et al., 2003). Perhaps the disparity in educational outcomes has more to do with the variability in educator beliefs about intelligence, teachers' goal orientations, the classroom goal structures and school goal structures established by educational personnel, and the behavioral responses of teachers as related to goal orientation than educators even realize. A full understanding of how goal orientation and implicit beliefs affect the functional behavior of educational personnel is needed, especially as it involves the admissions management procedures of independent schools, a process that might inherently transmit ideals regarding implicit ability beliefs.

Purpose of the Study

The purpose of this study was to explore the self-reported goal orientations of educational personnel employed by independent schools as related to practical communication and decisions regarding implicit ability beliefs and predicted success of students. Since teachers spend a great deal of time with young people, they have a considerable bearing on how students conceptualize ability and how much effort students expend on academic pursuits. There exists a positive

correlation between academic achievement and believing that one's intelligence or ability can improve with effort, so it is imperative that teachers communicate a belief in the malleability of personal attributes and the importance of developing, rather than simply demonstrating, competence (Farrington et al., 2012). While research has been conducted on the relationship between goal orientation and intelligence theory, on the effect of teacher interactions and student achievement, and on teacher goal orientation and student motivation, there exists a gap in the knowledge of how mindset and goal orientation informs educator behavior, specifically their predictions regarding the potential success of students. How the implicit ability beliefs and goal orientations of teachers translates into functional communication and behavior needs clarification. If a relationship were found, it could be used to inform the training programs of aspiring teachers as well as the observational and evaluation procedures for educators by providing more specific feedback about classroom organization, goal structure, and instructional and assessment techniques. The information might also improve the admissions processes many independent schools employ to ensure that the functional implicit ability beliefs of employees making performance appraisals follow a mastery orientation.

Theoretical Foundation

Attempts to isolate those distinctive elements that promote student success garner much time and effort, and it is clear that academic achievement is dependent upon far more than just access to information. Reaching one's full potential could easily be sidetracked by a myriad of factors, even ironically, one's beliefs about the formation of intelligence (Dweck, 2006). The concept of implicit theory arose from the work of Carol Dweck. Dweck (2006) theorized that one's achievement is a result of how one views intelligence. She found two opposing viewpoints. The entity perspective holds that intelligence is fixed and unlikely to change, while

the incremental position reflects a belief that intelligence is malleable and will change in response to effort. Those who possess an entity perspective are more likely to believe traits are stable and are more apt to diagnose others based on preliminary data whereas those with an incremental orientation maintain an open mind regarding people's ability to evolve (Rattan, Good, & Dweck, 2012). This theory is intricately tied to achievement goal theory because one's position concerning the origin of intelligence often directs the type of achievement goals selected (Dweck & Elliot, 1983; Shim, Cho, & Cassady, 2013). When students hold the belief that their intelligence is fixed, they are more likely to engage in performance goals (Blackwell, Trzesniewski, & Dweck, 2007; Robins & Pals, 2002). On the other hand, when students possess an incremental theory of intelligence, they are more likely to pursue mastery goals (Dweck & Leggett, 1988).

Dweck (1999) went on to repeatedly demonstrate that having this incremental theory of intelligence was associated with a great host of other factors, most notably academic achievement. After analyzing the data, Dweck determined that a person's mindset toward effort was one of the most influential aspects in determining achievement. People possessing what Dweck later termed a growth mindset believe that all human characteristics, such as intelligence, typing speed, or pole-vaulting, can be developed through effort (Dweck, 2006). The opposite of a growth mindset, dubbed a fixed mindset, is the belief that human characteristics or abilities are innate and fixed at birth. In other words, a person is either smart or not, and there is nothing one can do to change that. For those with a fixed mindset, their achievement is depressed because of the constant fear of making a mistake or appearing foolish, so challenges and healthy risks are avoided. Conversely, the growth mindset attitude turns cognitive struggles into signals of success, sensing opportunities to learn rather than examples of failure (Boyd, 2014).

Evidence supports the impact of students' mindsets on motivation and fortitude. Students with growth mindsets often prove more adaptable, employing new strategies when confused and enduring through obstacles (Spitzer & Aronson, 2015). It is important to note that Dweck does not espouse the notion that everyone starts at the same point. Dweck (2006) clearly acknowledged that, "Although people may differ in every which way – in their initial talents and aptitudes, interests, or temperaments – everyone can change and grow through application and experience" (p. 7). As Dweck expanded her research, the theory also extended to include all personal attributes, not just intelligence (Chiu, Hong, & Dweck, 1997). When referencing the theory as it pertains to assessments about the malleability of individuals' personal characteristics, researchers refer to it as implicit person theory (IPT).

Developing an appreciation for how growth mindset functions in education is vitally important as research has shown that implicit beliefs about ability, or one's mindset, were more strongly associated with school performance than intellectual ability as measured by standardized tests (Farrington et al., 2012). Other studies highlighted GPA as a better indicator of college graduation than any standardized test score, and much of that variance may be due to implicit beliefs (Farrington et al., 2012). Dweck (2000) turned her attention to developing a growth mindset in individuals and found it was possible to change one's mindset through intervention. Since this discovery, several intervention programs have been developed to foster growth mindset, most notably Dweck's program, *Brainology* (Mindset Works, 2008). Interestingly, researchers found that mindsets can be nudged in one direction or the other by a simple sentence (Bronson, 2007). Another brief growth mindset intervention was correlated with reduced stress, less physical illness, and higher achievement months later (Yeager et al., 2014).

By developing an understanding that one's beliefs about ability inform the direction of one's goal orientation and subsequent behavior and that these beliefs can be transformed, then teachers might be able to use the implicit person theory to improve student outcomes. The first step is to determine whether there is a relationship between the goal orientations of educational personnel and their subsequent functional communication and behavior regarding beliefs about the nature of student intelligence.

Research Questions and Null Hypotheses

This study addressed two questions concerning the goal orientations of educational personnel and their corresponding behavior related to implicit ability beliefs about students. The corresponding null hypotheses indicate the absence of a statistically significant relationship between the variables.

Question 1: Are school personnel's scores on the Perceptions of the School Goal Structure for Students subscales of the *Patterns of Adaptive Learning Scale* (PALS) correlated with their implicit theory of ability scenario results (Gutshall, 2013; Midgley et al., 2000)?

H_1: There will be a statistically significant relationship between the participants' scores on the Perceptions of the School Goal Structure for Students subscales of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios.

H_{01}: There is no relationship between the participants' scores on the Perceptions of the School Goal Structure for Students subscales of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios.

Question 2: Are school personnel's scores on the Approaches to Instruction subscales of the *Patterns of Adaptive Learning Scale* (PALS) correlated with their implicit theory of ability scenario results?

H_2: There will be a statistically significant relationship between the participants' scores on the Approaches to Instruction subscales of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios.

H_{02}: There is no relationship between the participants' scores on the Approaches to Instruction subscales of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios.

Limitations and Delimitations

There were several limitations to this study. As a purposive sample was utilized, the results were not generalizable to the wider population. Additionally, the small sample size limited generalizability as well. The findings were only applicable to other southeastern middle school teachers at independent schools with a similar demographic profile. Given that participants were volunteers, the results may be skewed, as teachers may have volunteered to participate because they had more knowledge or interest in the subject. There was also potential bias in the self-report surveys as teachers may not have responded honestly, either because they had prior knowledge of the survey content or because they had a professional relationship with the researcher and wanted to respond the way they thought the researcher wanted. It is also possible that the results were not reflective of the teachers' typical behavior as they knew they were research participants.

There were delimitations to the study as well. Only middle school teachers were asked to participate as it is often during the middle school years when students' motivation declines (Anderman, Maehr, & Midgley, 1999). Another delimitation was the utilization of an independent school as the setting for the research. Participants were critically selected, however, because of the greater autonomy afforded to teachers of an independent school. It was more

likely that their established classroom goal structure stemmed from personal ideology rather than imposed by a local or state governing body.

Assumptions

The researcher assumed that the teachers would respond honestly on the self-report surveys. The researcher also assumed that educator responses to the scenarios would be representative of daily behavior when not being observed. Another assumption inherent in this research was that neither gender of the teacher nor years of experience would have any effect on the results.

Definitions of Terms

The following represents formal definitions of terminology used in this research:

Achievement goal theory. Achievement goal theory is a belief that how people approach a goal is determined by a combination of beliefs and attributions that generate the intentions of behavior (Weiner, 1986).

Entity theory. Entity theory of ability reflects a belief that intelligence or ability is fixed and that orients one towards a performance goal of showcasing that entity (Dweck & Leggett, 1988).

Fixed mindset. This is a synonym of entity theory coined by Dweck (2006).

Incremental theory. An incremental theory of ability indicates a belief that intelligence or ability is malleable and that orients one towards a mastery goal of achieving that attribute (Dweck & Leggett, 1988).

Implicit ability theory. Implicit ability theory is a belief that how people view the nature of intelligence or the nature of ability development will orient them towards different goals (Dweck & Leggett, 1988).

Growth mindset. This is a synonym of incremental theory coined by Dweck (2006).

Learning goal orientation. This is a synonym for mastery goal orientation (Dweck & Leggett, 1988).

Mastery goal orientation. A mastery goal orientation signifies a belief that the purpose of one's behavior is to improve competence or achieve mastery according to self-referenced standards (Ames, 1992).

Performance goal orientation. A performance goal orientation suggests a belief that the purpose of one's behavior is to demonstrate competence relative to peers (Ames, 1992).

Social comparison. This is a synonym for performance goal orientation wherein competence is based on a comparison to the performance of others (Darnon et al., 2010).

Temporal comparison. This is a synonym for mastery goal orientation referring to competence being based on a comparison to one's past performance (Darnon, Dompnier, Gilliéron, & Butera, 2010).

Organization of the Document

The study is organized into five chapters. Chapter One introduces the study and provides background information to provide deeper understanding of the purpose of the research. It also outlines the theoretical framework and the specific research questions. In Chapter Two, the literature related to the research is summarized, and unresolved issues are highlighted to support the purpose of the current research. The research methodology is thoroughly described in Chapter Three, while the results of the data analysis are explained in Chapter Four. The final chapter, Chapter Five, summarizes the findings and discusses the conclusions one can make based on this study. Recommendations for future areas of study are also provided.

Chapter Two

Review of Related Material

The importance of helping educators understand how implicit ability beliefs impact learning cannot be understated. Implicit ability beliefs are clearly related to goal orientation, and they affect students' motivation to learn (Dweck, 1986; Dweck & Leggett, 1988; Dweck, 2006). Research on the significant effects that implicit ability beliefs can have on one's achievement also abounds (Blackwell et al., 2007; Farrington et al., 2012). It stands to reason that educational personnel, as professionals who spend up to seven hours a day with the same set of students, could have a great impact on the ability beliefs and goal orientations of their students, and research has begun to provide support to this supposition as well (Logan & Skamp, 2008; Patrick, Anderman, Ryan, Edelin, & Midgley, 2001). The literature reinforces the relationship between teacher practices and classroom structures that promote certain goal orientations. Yet there is limited research on how the implicit ability beliefs and corresponding goal orientations of educational personnel might affect academic decisions or how these beliefs may change when applied to others rather than self. Given the decline in student motivation at the middle level, it becomes even more paramount for middle school educators to develop an understanding of how their beliefs about ability and goal orientations affect performance appraisals of students and the establishment of school and classroom goal structures. How the beliefs of independent school educators translate into functional instructional behavior and judgments about student ability is also relatively unknown. More research is needed to fully understand this interaction as decisions concerning student ability could also affect admissions decisions for independent schools, potentially altering the educational path of many young people.

Implicit Ability Beliefs and Goal Orientation

      Learned helplessness. When Carol Dweck began her attempt to discover why some

people avoided challenge and crumbled under an impediment while others, of the same ability,

persevered, it started with the idea of learned helplessness (Dweck & Reppucci, 1973). Before

this work, learned helplessness had only been discussed with animal subjects that, once shocked,

allowed continued shocks without attempting to escape (Seligman, 1972). Dweck and Reppucci

(1973) observed that, when faced with a challenge, children of the same initial ability level

responded with a "helpless" (maladaptive) reaction wherein they gave up or a "mastery"

(adaptive) reaction where the subject persevered through the chore. Diener and Dweck (1980)

found that children with a helpless attitude did not even accurately recall past successes,

consistently underestimating the quantity of problems accurately solved, and the helpless

children were also less likely to see current achievement as an indicator of future achievement.

Later researchers confirmed that students with entity, or fixed, beliefs about ability are more

likely to exhibit a learned helplessness pattern of behavior (Kinlaw & Kurtz-Costes, 2007).

Dweck and Elliott (1983) hypothesized the variance in reactions to a challenge stemmed from a

difference in goal orientation.

      Achievement goal theory. Dweck and Elliott (1983) found that there was a correlation

between one's goal orientation and one's behavior. Achievement goal theory states that

motivation to achieve is driven by the person's beliefs about the level of ability needed to

achieve success, how the person defines success, and the perceived benefit of obtaining the goal

(Pass & Abshire, 2015; Senko, Hulleman, & Harackiewicz, 2011). The derivation of

competence results from an impartial standard, a personal criterion, or from comparison to

others. Having a performance goal orientation was defined as the purpose of a behavior being to

seek positive feedback regarding one's ability based on a comparison to the performance of others or being able to appear successful while expending little effort (Patrick et al., 2001). On the other hand, the purpose of a learning, or mastery, goal orientation was the pursuit of competence based on an objective measure of progress or a personalized benchmark wherein learning was the primary objective.

Darnon et al., (2010) referred to proficiency as the differentiating characteristic between performance and mastery goals. People with a mastery goal defined success by making temporal comparisons based on one's own past behavior. Those with a performance goal relied on social comparisons to determine how they performed relative to others. Some researchers have argued that mastery goals also involve social comparison, such as when it serves a self-improvement purpose through acquiring extended knowledge from the answers of peers (Butler, 1992; Régner, Escribe, & Dupeyrat, 2007). Others have indicated that people can possess multiple goals at the same time (Darnon et al, 2010). However, the key distinguishing feature remains the primary rationale for pursuing the goal. When the fundamental reason for pursuing the goal is learning, the behavior is classified as a mastery goal whereas the behavior is more accurately deemed a performance goal when the chief purpose involves surpassing the accomplishments of others.

Dweck and Elliott (1983) found that those with a performance orientation were more likely to have a helpless reaction when faced with a trial while those with the learning, or mastery, orientation relished demanding tasks. Those with a performance goal orientation worried most about others' judgment of their ability or lack of ability and hoped to demonstrate their ability or avoid the task while those with the mastery orientation simply wanted to learn or seek improvement (Ames & Archer, 1988; Dweck & Leggett, 1988). The mastery orientation was positively correlated with adaptive patterns of behavior such as accepting challenges,

persistence, and satisfaction whereas the performance orientation was most often associated with avoidance, negative affect, and/or shallow learning strategies (Vedder-Weiss & Fortus, 2013). While the achievement goal theory of motivation explained the differences in exhibited behavior based on the perceived purpose, or goal, of the behavior, researchers still did not have an understanding of why people of the same general ability would choose different goals (Dweck, 1992).

Implicit ability theory and achievement goal orientation. To investigate the rationale behind goal-directed behavior, Dweck teamed up with Ellen Leggett. Dweck and Leggett (1988) theorized that one's implicit, or underlying, beliefs about the origins of intelligence determined one's goal orientation. Their work showed that believing intelligence or a specific ability to be innate was related to the performance goal orientation but believing ability to be malleable was more likely to produce a mastery goal orientation. They hypothesized that beliefs regarding the fundamental nature of ability leads to a particular goal orientation. One's goal orientation determined how success was defined and that, in turn, regulated behavior. Those with a performance goal orientation defined success as outperforming peers or while those with a mastery goal orientation defined success as making improvements (Senko et al., 2011).

Experimentally manipulating children's goal orientations to observe their subsequent behavior showed that situational variables can direct students towards different achievement goals (Dweck & Leggett, 1988; Elliot & Harackiewicz, 1996; Mueller & Dweck, 1998). Praising the effort of students encouraged a mastery orientation, and then it did not matter what individuals thought of their actual ability to succeed. Most subjects chose a difficult task regardless and exhibited adaptive behavior. When performance orientation, stressing ability and judgment, was encouraged by praising students for their intelligence, individuals with a negative

outlook on their innate ability responded with a helpless reaction and selected an easier task. Conversely, individuals with a positive assessment of the ability to succeed continued to pick the more challenging task. The studies showed that different goal orientations would result in different approaches to a task based on how one viewed one's ability. The studies also found an interesting relationship between individuals' goal orientations and how effort was viewed. With a performance goal orientation, effort was inversely related to ability, meaning if one had to expend a great deal of effort, this was an indication of low ability. With a mastery goal orientation, effort and ability were positively related. Therefore, for an individual with a mastery goal orientation, more effort was synonymous with high ability as this indicated incremental improvement.

In an effort to explain the different views regarding one's ability, Dweck and Leggett (1988) developed the implicit theory of intelligence model. What led some individuals to focus on improving ability was termed incremental theory of intelligence because those individuals shared a belief in the possibility of considerable improvement with effort. Having an entity theory of intelligence would cause one to believe intelligence was fixed, and substantial improvement of intelligence would not be within the realm of possibility.

Further research revealed that the type of beliefs engendered in children could be manipulated based on environmental inputs. Researchers found that both parents and teachers directed children toward adopting either entity or incremental beliefs by how praise was phrased (Gunderson et al., 2013; Mueller & Dweck, 1998; Rattan et al., 2012; Yeager et al., 2103). Gunderson et al. (2013) conducted a longitudinal study of young children and recorded the ways parents praised their children. When parents primarily offered process praise rather than personal praise, children were significantly more likely to report having an incremental theory of

ability several years later. Mueller and Dweck (1998) noted similar results in their research with

fifth graders. After completing a puzzle, half of the students were praised for effort while the

other half were praised for their intelligence. Effort praise was associated with students more

readily choosing the learning, or mastery, goal orientation and exhibiting adaptive behavior. In

contrast, those students who were praised for intelligence were far more likely to have a

performance goal orientation and exhibit helpless, maladaptive behavior. Praising students for

effort had a motivating effect on student performance while praising students for intelligence

resulted in higher adoption of performance orientation, decreased persistence, and declining

achievement. Similarly, Yeager et al. (2013) studied wise feedback for students and discovered

that students exhibited increased motivation and enhanced work products when they were given

specific feedback upholding high standards while at the same time expressing the teacher's belief

in the students' ability to be successful. The wise feedback was successful in promoting mastery

orientation because it suggested that, through effort, the students would see improvement. In the

study by Rattan et al. (2012), the reverse was found wherein students who received low ability

feedback from an instructor reported diminished motivation and decreased belief in the

probability for personal success. Both characteristics could indicate the adoption of entity ability

beliefs and performance goals.

  Other researchers examined the effect of generic teacher praise on students. Cimpian,

Arce, Markman, and Dweck (2007) observed that, when given constructive feedback through the

use of generic praise, students were significantly more likely to avoid the task than when the

feedback was specific to the one event. Generic praise was defined as referencing an attribute of

an individual, such as polite or helpful. Researchers theorized that generic feedback gave

students the impression that the behavior was grounded in a stable characteristic, thus promoting

entity beliefs and encouraging students to adopt performance goals. Using generic language to reference groups of people was also found to have adverse outcomes. When teachers described a group, such as boys, as being good at a task, all students reported lower motivation regardless of whether or not they belonged to the favored group (Cimpian, 2010). Again, planting the idea that some students might be good at a task by virtue of an innate characteristic like gender or race stimulated a performance goal orientation.

When students have a performance goal orientation, they are more likely to avoid new learning opportunities, exert minimal effort, lack persistence, and choose less challenging tasks (Blackwell et al., 2007; Hong, Chiu, Dweck, Lin, & Wan, 1999). As originally evidenced by Dweck and Leggett (1988) in their experimental study, when given the opportunity to develop a deeper understanding or try a difficult assignment, students with a performance goal orientation chose to participate in tasks that would make them seem successful as guaranteed success was a predetermined outcome. This pattern was also observed in real-world settings with students transitioning from high school to college (Robins & Pals, 2002). The researchers observed no significant variation in the implicit self-theories of the students over time and noted that students with an entity theory primarily selected performance goals whereas students with an incremental theory of personal ability were more likely to choose mastery goals. They also documented that the entity theorists experienced a decline in self-esteem over time while the self-esteem of the students with a mastery orientation and belief in their ability to improve increased. Thus, one's goal orientation is a reflection of personal implicit ability beliefs, implicit ability beliefs are often a function of environmental feedback, and implicit ability beliefs can influence academic success, especially for young people. The classroom goal structure, the indicators students perceive regarding what is valued by the teacher, provide many of the environmental inputs that

influence the achievement goal structure and implicit ability beliefs of students (Ames, 1992; Patrick, Kaplan, & Ryan, 2011; Skaalvik & Federici, 2016). As summarized by Shim et al. (2013), implicit ability beliefs and achievement goal orientation "are intricately interrelated because of the tendency of children's perspectives on the nature of intelligence to guide the types of achievement goals they adopt" (p.85).

Motivation

Goal orientation and motivation. The perceived purpose of achievement moderates the motivation to even engage in academic pursuits (Molden & Dweck, 2000). Student motivation, defined as appreciating and continuing a learning activity as a primary objective (Butler, 2000), is positively correlated to student effort because students will not invest the time and energy necessary to achieve until they believe the work will produce positive results (Turner et al., 2003). Indeed, according to Deci and Ryan (1985), the desire for competence is an essential aspect of intrinsic motivation. Defining student effort as "the voluntary behavior or personal investment that a student makes for their education" (Pass & Abshire, 2015; p. 15), Pace (1998) measured student effort by determining how frequently students performed learning tasks such as detailed note-taking and seeking feedback on work. Pass and Abshire (2015) found that students possessing a mastery goal for achievement exerted significantly more effort than those pupils with a performance orientation. The researchers noted that frequency of task completion was not sufficient evidence as some students may complete substandard work consistently in an effort to maintain the appearance of competence.

Butler (1992) noticed that intrinsic motivation declined more significantly following normative failure when the experimental condition highlighted the value of outperforming others (social comparison or performance goals) over the importance of temporal improvement

(mastery goals). Similarly, Vedder-Weiss and Fortus (2013) also found that students who were

motivated by aspirations of displaying competence or avoiding revealing incompetence were not

actively engaged in learning. When students are most concerned with their performance relative

to their peers, the behaviors most associated with academic achievement become downgraded in

terms of priority.

   Classroom goal structure and motivation. How students perceive the goal structure of

the classroom could also affect motivation. When students perceived a mastery goal structure in

the classroom, Skaalvik and Skaalvik (2013) observed a significant positive correlation in

intrinsic motivation. Murayama and Elliot (2009) also noted that intrinsic motivation was

positively predicted by a mastery goal structure for seventh through twelfth grade students while

Midgley and Urdan (2001) reported that performance goal structure was positively correlated

with self-handicapping behavior for seventh grade students. Wolters (2004) also found that

specific goal structures were related to adaptive motivational engagement or maladaptive self-

handicapping behaviors such as procrastinating. Students who sensed a mastery goal structure

registered higher motivation while students who perceived that competition was emphasized

were more likely to procrastinate and disengage from work. The perceived goal structure of the

classroom positively predicted the level of student motivation. Bulus (2011) mentioned similar

results for college-age students. Having a mastery goal orientation was positively correlated

with an internal locus of control as well as academic achievement. Internal locus of control was

defined as the extent to which an individual considers life experiences the product of personal

effort and was noted to be a primary contributor of motivation as well as incremental ability

beliefs.

Implicit theory of ability and motivation. Having established the entwined relationship between goal orientation and implicit ability theory, it was not surprising that researchers also found that implicit ability beliefs affect motivation. Students with an entity theory of ability were more likely to abandon a learning goal when it became difficult because their beliefs about their innate ability caused them to conclude that they could not improve (Blackwell et al., 2007; Heine et al., 2001). Students with an incremental theory were more likely to persist, believing that effort would lead to improvement, and used those beliefs as a source of motivation to continue with an extended learning process (Ziegler, Fidelman, Reutlinger, Vialle, & Stoeger, 2010). Cury, Da Fonseca, Zahn, and Elliott (2008) demonstrated that students could even be encouraged to adopt entity beliefs for a single assessment and that endorsement was significantly associated with decreased performance as well as increased anxiety. Furthermore, self-perception and motivation declined more significantly for students with an entity theory of self following failure feedback than for students with incremental beliefs (Dweck & Leggett, 1988).

Comparing the motivation of different categories of students, Anderman and Young (1994) found that academically challenged science students differed from the students receiving special education services by demonstrating fewer adaptive learning strategies and reporting lower motivation levels. The students in academic duress reported their teachers used more ability-focused instructional techniques. Being quick to ascribe a dearth of ability as the reason for inferior performance made students with a performance goal orientation and fixed mindset more susceptible to disengagement when critiqued (Mangels, Butterfield, Lamb, Good, & Dweck, 2006). Unfortunately, entity beliefs are prone to proliferation and frequently precede more serious maladaptive behavior such as chronic truancy and complete disengagement from

school (De Castella & Byrne, 2015). Often these behaviors emerge in the middle school years (Eccles, Lord, & Midgley, 1991).

      Transition to Middle School and Motivation. The shift from elementary to middle school represents a significant developmental transition for young students. This period of time has been correlated with decreased motivation, lowered perceptions of ability, more negative opinions about the value of education, and declining achievement (Eccles, Midgley, & Adler, 1984; Eccles et al., 1993). Likely there are several environmental factors contributing to this shift, including larger class sizes, reporting to multiple teachers, an increase in ability grouping, and being in larger buildings (Eccles & Wigfield, 1994; Smart, 2014). Feldlaufer, Midgley, and Eccles (1988) also highlighted that, after the transfer from elementary school to middle school, pupils have fewer possibilities for cooperative learning while experiencing a corresponding increase in social comparison. Building on the work of Wolters and Benzon (2010) with college students, Paulino, Sá, and Lopes da Silva (2016) found a positive relationship between the perceived value of a learning task, the self-efficacy beliefs of middle school students, and the possession of a mastery achievement goal orientation. The study theorized that the three components worked together to create a global motivation orientation. However, Schunk, Pintrich, and Mecce (2008) discovered that students felt there was a higher emphasis on performance goals following the transition to middle school. This finding could account for some of the decreased motivation reported by middle school students.

      Individual teacher factors have also been studied to determine differences between middle school teachers and elementary school teachers. Middle school teachers were found to be less encouraging, provide fewer opportunities for student choice, and make fewer connections with their students on a personal level (Barber & Olsen, 2004; Smart, 2014). The research on

classroom goal structure highlighted the areas middle school teachers could control in order to improve the outlook of their students, but there are few systematic and objective methods of observation that link the teachers' self-reported implicit intelligence theories and goal orientations to their outward behavior (Anderman, Patrick, Hruda, & Linnenbrink, 2002). This presents a challenge for providing constructive feedback to individual educators, but it is also a challenge for schools from an institutional perspective. Through qualitative interviews, Vedder-Weiss and Fortus (2012) discovered that a primary distinction between motivated and unmotivated students stemmed from their perception of personal autonomy in learning. The goals that were emphasized by the schools were significantly related to the students' sense of autonomy and academic achievement.

Relationship between Implicit Beliefs, Goal Orientation, and Academic Achievement

  Implicit beliefs and academic achievement. The way people view the development of ability can have a significant effect on their achievement. Students with entity beliefs connect success or failure with fixed ability (Dweck, 2006). Because of this belief, entity theorists are more likely to avoid academic challenges and have a greater probability of underachievement. Dweck (1999) observed that students who experience a great deal of early success may be most susceptible to learned helplessness upon facing a challenging task because they are more likely to develop an entity theory concerning their personal ability. Several studies have shown that people who adhere to a personal entity theory of intelligence face numerous adverse academic consequences. They typically expend less effort, have decreased confidence, lack persistence, and are more interested in undertaking performance goals (Blackwell et al., 2007; Chen & Pajares, 2010; Hong et al., 1999). The evidence from experimental and correlational studies also support the positive benefits of incremental beliefs. Blackwell et al. (2007) found a correlation

between achievement and mindset. Seventh grade students who held an incremental theory of intelligence at the beginning of a school year had significantly higher grades at the end of their eighth grade year. Incremental ability beliefs also projected higher standardized test scores (Cury, Da Fonseca, Zahn, & Elliot, 2008) and higher grades for college students (Aronson, Fried, & Good, 2001). Farrington et al. (2012) echoed those findings with a meta-analysis, summarizing that believing one's intelligence is malleable has a positive correlation with academic achievement.

Goal orientation and academic achievement. Similar to implicit ability beliefs given their intertwined relationship, goal orientation can also influence achievement. When students self-reported a performance goal orientation, it had a corresponding maladaptive influence on academic achievement (Anderman & Young, 1994). This was especially true when students sensed that their ability was low and possessed a fixed mindset. Though some researchers (Hulleman, Schrager, Bodmann, & Harackiewicz, 2010; Linnenbrink-Garcia, Tyson, & Patall, 2008) have noted inconsistent correlations between mastery goal orientation and academic achievement, Dompnier, Darnon, & Butera (2009) determined that the degree of perceived social desirability of a mastery goal orientation was the moderating factor. When students reported a mastery goal orientation under the assumption that it will help them gain credibility with teachers, the students' proclamation was artificial. There was no improvement in achievement because the students still realistically possessed a performance goal orientation.

The evidence concerning academic achievement and performance goals is less clear. For example, Senko et al. (2011) reported inconsistent finding regarding achievement and performance goal orientation. Their research revealed that when students reported a performance goal that highlighted a desire to showcase superiority, achievement suffered;

however, when students reported a performance goal with the primary purpose being a desire to improve competence based on normative criteria, the relationship between achievement and performance goals was positive. The researchers hypothesized that when students are confident in their ability and possess a normative performance goal, this provides motivation to achieve at the highest levels through the utilization of effective learning strategies. The possibility that there could be some overlap between the mastery orientation and this particular type of performance goal led to the premise that students may possess multiple goals at the same time. Regardless of whether different performance goals or multiple goals exist, when students obtain a true mastery goal orientation, their behavior was consistently positively correlated with an efficacious affect, higher academic achievement, and the utilization of effectual learning methods (Pintrich & De Groot, 1990). Pintrich and De Groot (1990) found that middle school students with a mastery goal orientation were significantly more likely to utilize metacognitive learning strategies such as planning ahead, summarizing, and self-monitoring. An abundance of research exists to show that implicit incremental ability beliefs in concert with a mastery goal orientation are positively correlated with achievement and adaptive behavior, thus it is important for educators to fully understand how students develop and communicate a sincere mastery achievement goal orientation and implicit ability beliefs (Anderman & Wolters, 2006; Shim et al., 2013).

Implicit beliefs interventions. An intervention developed by Good, Aronson, and Inzlicht (2003) to teach students about growth mindset resulted in significant improvement on achievement tests. When students were taught that the human brain is malleable and could grow like a muscle, they were more willing to expend the energy necessary to develop competence. The intervention developed by Blackwell et al. (2007), designed to teach students about

incremental theory by teaching them about the malleability of the brain, also resulted in the perception of increased classroom motivation. Interventions can also change implicit theories of other aspects of human life. An intervention designed to increase incremental beliefs about personality resulted in reduced stress and a decrease in maladaptive reactions to social adversity (Yeager et al., 2014).

Understanding that implicit beliefs about others can change with targeted intervention is important; however, research also points to the importance of teacher behavior in maintaining the intervention effect on students' implicit intelligence beliefs and goal orientations. Schmidt, Shumow, and Kackar-Cam (2015) found that individual teacher variations were a central influence in maintaining the effects of a mindset intervention. Both teachers featured in the study affirmed belief in growth mindset philosophy, yet their differentiating actions in the classroom affected their students' mindsets. The students who had a teacher who made regular comments supporting growth mindsets and mastery goal orientations maintained a mastery goal orientation and had higher grades at the post-intervention period and the follow-up period several months later. The classroom goal structure affected the students' personal goal orientations.

Different Models for Personal Goal Orientation and Classroom Goal Structure

More research into achievement goal theory revealed that personal mastery and performance goals often split into approach or avoidance orientations based on the primary incentive for improvement (Elliot, 2005; Elliot & McGregor, 2001). Mastery-approach goals are based on an underlying motivation to achieve enhanced ability whereas mastery-avoidance goals are efforts to avoid not developing competence (Baranik, Stanley, Bynum, & Lance, 2010). Researchers theorized that the mastery-avoidance goal might be more prominent in professional settings, such as a newly hired employee or in fields of technology where employees must often

conquer new devices or programs. Performance-approach goals lead individuals to exert energy in demonstrating superiority and gaining positive affirmation while performance-avoidance goals evoke desires to evade feeling or appearing incompetent (Elliot, 2005). While performance approach goals may result in academic success, the characteristic distinction between either type of mastery or performance goal remains developing versus demonstrating competence (Senko et al., 2011). A person with a well-developed mastery orientation experienced proficiency with a task when the task was mastered or when improvement was noted relative to personal prior performance (Baranik et al., 2010). Individuals possessing an intense performance orientation only felt proficient when their performance was superior to others. If people with strong performance orientations feel insecure in their ability to achieve at the highest levels, then performance-avoidance may take root (Elliot, 2005). Performance avoidance goals typically resulted in a host of negative behavioral characteristics including increased anxiety, poor study skills, lack of help-seeking activities, and low academic achievement (Senko et al., 2011; Wolters, 2004).

For many years, the demarcation between mastery and performance goals was absolute (Dweck & Leggett, 1988). However, more recent research showed some positive correlations between goals, especially mastery and performance approach goals (Barron & Harackiewicz, 2001; Harackiewicz et al., 2002; Wolters, 2004). Research by Darnon et al. (2010) and Barron and Harackiewicz (2001) showed that students may not work toward unalloyed goals and often report adoption of multiple goals. The study conducted by Darnon et al. (2010) found that it was only when students stated endorsement of both mastery and performance approach goals that they engaged in social comparison. The researchers theorized that the quest for mastery alone differed significantly from the mastery goal in conjunction with performance approach interests

because mastery goals could be used for performance approach purposes. For example, a student might expend more effort in mastering a skill in order to receive a higher grade than a peer.

Differentiating educational environments based on essential achievement goals, on the other hand, suggested that they bifurcate into either performance or mastery goals only (Murayama & Elliot, 2009). Efforts to distinguish classrooms as performance-approach or performance-avoidance revealed that an environment that highlights performance goal structures, such as encouraging competition and comparison, resulted in students' adopting either performance-approach or performance-avoidance goals based on the students' level of confidence in their personal ability (Wolters, 2004). In an effort to replicate those results, Federici, Skaalvik, & Tangen (2015) also found that performance goal structures were positively correlated to the performance-approach and performance-avoidance goals of students and negatively correlated to mastery goals of students. Additionally items on a classroom goal structure measurement designed to discriminate between performance-approach and performance-avoidance structures failed to successfully differentiate the two. Most research now focuses the 2x2 framework for personal achievement goals and follows the dichotomous structure of performance and mastery when considering classroom goal structure (Murayama & Elliot, 2009). The way students perceive the goal structure of the classroom can affect their personal achievement goals.

Subjective Perception of the Learning Environment

Observing daily classroom behavior and interactions has proven to be a valuable research tool and, through feedback to teachers, can improve student achievement (Pianta & Hamre, 2009). In researching how teacher actions affect students, Allen et al. (2013) found that there were attributes of teacher exchanges with students and classroom organizational features that

predicted student achievement as well. In their research, they utilized the *Classroom Assessment Scoring System-Secondary* (CLASS-S) developed by Pianta, Hamre, Hayes, Mintz, and LaParo (2008) that provided a more objective way to assess three primary domains of student-teacher interactions: emotional support, classroom organization, and instructional support. The results indicated that all three domains were predictive of student achievement test scores with emotional support being the strongest predictor followed by instructional support and then classroom organization. (Allen et al., 2013).

In order to evaluate the presence of distinct goal structures in classrooms, Midgley et al. (2000) created the *Patterns of Adaptive Learning Scales* (PALS). The PALS framework was based on achievement goal theory and seeks to identify classroom goal structures correlated to adaptive or maladaptive learning as linked to mastery or performance goal prominence. Teacher scales seek feedback on the goal structure of the school, approaches to instruction, and teacher self-efficacy. Numerous studies utilized the PALS to gather information on teacher perceptions of the classroom goal structure, and it has also been used to gather information from the student perspective as the student scales measure personal goal orientation, perceptions of the goals of the teacher, and perceptions of the classroom goal structure (Anderman et al, 2001; Midgley et al., 2000; Throndsen & Turmo, 2013). Throndsen and Turmo (2013) showed there was a strong positive correlation between the performance goal structure reported by students and the performance approaches to instruction as conveyed by teachers as well as the mastery goal structure and mastery approaches to instruction. Friedel, Cortina, Turner, and Midgley (2007) noted that the opinions of pupils concerning teacher mastery or performance goal structure reliably predicted the goal orientations of the students surveyed. Their work with seventh grade math students confirmed that students adopted the achievement goal emphasized by the teacher.

This would indicate that the goal structures teachers employed were reflective of their personal goal orientations and were perceived relatively accurately by students, but other researchers have argued that the subjective experience of the students is more important in determining the pupils' achievement goals and subsequent effort (Ames, 1992; Lüftenegger et al., 2014). Mecce (1991) surveyed fifth and sixth grade students and found mastery goal orientation was more likely in students who perceived that their teachers adapted instruction to different levels and the personal interests of the students.

Rather than relying on an outside observer or the classroom teacher to relate the potential classroom goal structure, Lüftenegger et al. (2014) sought to develop a way to measure the lived experience of the class as perceived by the students in the classroom. Their TARGET goal structure questionnaire was positively correlated with students' adoption of mastery goals and growth mindsets, confirming that teacher goal orientation influences their classroom behavior and instructional practices; the observed behavior of teachers is subsequently perceived by students and affects student behavior and achievement goal formation.

Classroom Goal Structure: Behavioral Indicators of Teacher Goal Orientation

The policies and procedures established by educators are influenced by previous experience, education, and professional development as well as personal philosophies concerning best practices and the nature of ability (Shim et al., 2013). One element of the learning environment established by an educator is the classroom goal structure, described as the achievement goals promoted by the teacher (Anderman & Wolters, 2006). Educators directly reveal information regarding the type of achievement preferred by promoting either a competitive environment that prioritizes outstanding ability or a supportive environment wherein personal progress is desired. Educators also provide clues regarding classroom goal structure

indirectly through grouping practices, assessment techniques, and other classroom routines. These pedagogical techniques are selected based on the values and goals the educators intend to cultivate in students and are a primary determinate of the achievement orientation of students (Pudelko & Boon, 2014).

The process of socializing students to the prevailing classroom philosophies and practices begins in the initial days of school and endures throughout the school year (Turner et al., 2003). Deci, Schwartz, Sheinman, and Ryan (1981) reported that student perceptions of teacher control orientations did not vary significantly between the first two months of school through the end of the year. This finding was then replicated by Patrick et al. (2001) to develop a better understanding of teacher behaviors that were most correlated with a mastery goal structure. Student perception of these teacher clues regarding the established classroom goal structure drove the formation of the students' personal achievement goals. Empirical studies provided evidence that pupils will adopt the type of classroom achievement goal that is emphasized in their environment (Bergsmann, Lüftenegger, Jöstl, Schober, & Spiel, 2013; Lüftenegger et al., 2014).

Student motivation and engagement was moderated by student perceptions of the classroom structures that teachers adopt. The goal structure, which is an indicator of the implicit ability beliefs and personal goal orientation of the educators, can affect student goal orientation (Smart, 2014). Epstein (1983) initially identified six interdependent classroom structures that could point students toward a mastery goal orientation and strengthen student motivation. Later researchers added an additional classroom structure through which the importance of incremental improvement could be transmitted (Anderman et al., 2002). The structures were formatted into

an acronym for easy recall, TARGETS, which stands for Task, Authority, Recognition, Grouping, Evaluation, Time, and Social Interactions.

      Task. Students were more likely to adopt a mastery goal orientation when they believed the task was meaningful and personally relevant (Ames, 1992; Brophy, 1987). Additionally, tasks that were structured to provide individual challenge and contained clearly communicated goals enhanced mastery orientation (Schunk, 1984). Though differentiation for individual challenge was important for mastery structure, it could also communicate a lack of confidence in the ability of some students. In order to ensure mastery goal structure, teachers deflected the notion that ability difference accounted for assignment options by offering a variety of task choices and refrained from offering unsolicited help to students (Good, Rattan, & Dweck, 2012; Patrick & Ryan, 2008). Finally, comments teachers made about how people learn also communicated a mastery goal structure (Patrick et al., 2001). When teachers reiterated the importance of effort and that mistakes were a normal part of the learning process, their students perceived a high mastery classroom goal structure (Boaler, 2013).

      Authority. Permitting students a choice in method of learning, demonstrating knowledge, or pace of learning advanced mastery orientations (Ames, 1992; Ryan, Connell, & Deci, 1985). This was only true when students perceived the options to be equal, however. Ames (1992) stated that, "Although students' perceptions of control have important consequences for their level of interest and engagement, students have few opportunities to control the selection of tasks, materials, method of learning, product, or pace in most classrooms" (p. 266). When some students were provided differential access to particular assignments, a performance orientation was enhanced because it gave students the impression that there were some students who were not capable of completing all of the work (Good et al.,

2012). Allowing all students the option to choose assignments would advance a mastery

classroom goal structure.

Recognition. Teachers who applauded the intelligence of students and compared their

aptitudes or posted grades publicly had students who were more likely to espouse a performance

goal orientation while teachers who celebrated student effort and discussed successful practice

strategies fostered growth mindsets and mastery goal orientations in their students (Dweck,

2007; Kamins & Dweck, 1999). When teachers engaged in public recognition practices, the

students adopted performance goals because the primary emphasis was on the distribution of

talent amongst peers (Alkharusi, 2008). Moreover, teachers who recognized the importance of

conveying interest in the emotional/affective well-being of students were not rated as highly in

mastery structure as were those teachers who also communicated high academic expectations in

addition to interest in students' affective well-being (Patrick et al., 2001). Thus a dual purpose

of recognition emerged. When teachers recognized students as individual learners on individual

learning paths and also attended to the concerns and personal development of students, students

rated them more highly in mastery orientation (Patrick et al., 2001; Wentzel, 1997).

Grouping. Grouping as a classroom structure can escalate creativity, improve student

social communication skills, and increase engagement, but grouping can also orient students

towards mastery or performance goals (Pass & Abshire, 2015). The composition of groups

should be varied often to ensure that students are not continually grouped by ability. If students

felt that ability grouping was the predominant strategy, then the likelihood of performance goal

adoption would increase.

Evaluation. How teachers evaluated students was one of the most influential factors

affecting student motivation (Ames, 1992). When teachers employed a normative grading

structure wherein only a finite number of students could score at a certain level, performance goals were emphasized (Wiliam, 2011). The primary issue was student perception of the purpose of the evaluation (Mac Iver, 1987). If students surmised the purpose of the assessment was to rank students, then performance goals would be more likely. However, if the purpose was determined to be personal improvement, then a mastery goal orientation would be promoted. Additionally, researchers endorsed the utilization of criterion-references assessments and formative assessment to promote mastery goal orientation in students (Patrick & Ryan, 2008; Wiliam, 2011).

To foster a mastery goal orientation, evaluation should be utilized to assess progress and be accompanied by descriptive feedback thereby allowing students an opportunity to refine their knowledge. Providing students this opportunity to correct errors, to improve understanding, has been found to foster mastery goals (Ames, 1992; Covington & Omelich, 1984). In fact, one critical feature differentiating classroom environments was whether or not retaking assessments was allowed. Classrooms high in mastery goal orientations consistently provided students with opportunities to improve their learning and demonstrate their improvement (Patrick et al., 2001).

Time. Student motivation can be affected by the amount of time allotted for the completion of tasks (Ames, 1992; Greene, Miller, Crowson, Duke, & Akey, 2004). Time for the pursuit of personal topics of interest as well as wait time for responding to questions may also reflect teacher goal orientation. This flexible employment of time was positively correlated with the perception of a mastery classroom goal structure (Patrick & Ryan, 2008). Students who reported a time limit on attaining a learning goal would be more likely to view the classroom as promoting a performance goal structure.

Social Interactions. Social interactions referenced the motivational effect of demonstrating social and affective support and promoting social interaction (Patrick et al., 2001; Vedder-Weiss & Fortus, 2013). When teacher discourse encouraged engagement, peer support, and admitting confusion, students reported more positive affect and fewer avoidance or self-handicapping behaviors (Turner et al., 2003). Teachers who were consistent, respectful, and enthusiastic influenced were more likely to be perceived as helpful and stable, and accordingly, their students exhibited mastery goal orientations (McInerney, 2008; Smart, 2014; Turner et al., 2003).

Ames (1992) documented that practices from all categories of the TARGETS framework work together to create the mastery structure. This research reveals that well-developed curriculum and lesson plans are essential, but insufficient, for adaptive student achievement performance (Turner et al., 2003). As teacher expectations and beliefs affect student motivation and achievement through the established classroom goal structures and teacher communications, it becomes even more important for middle school teachers to adopt incremental intelligence beliefs as this is when student motivation typically declines (Anderman et al., 1999; Midgley, Feldlaufer, & Eccles, 1989).

Student Perception of Teacher Goal Orientation

Clearly, how students perceive their teachers' goal emphases is related to the students' personal goal orientations and their motivation to learn as well. Ames (1992) emphasized that the individual student's perception is of primary importance as students arrive in a classroom with vastly different prior experiences that may lead them to interpret teacher-student interactions differently. Turner and Patrick (2004) also noted that students in the same class are often treated differently which could also lead to inconsistency in classroom-wide student

perception. Though students may construe different intentions of teacher behavior, educators striving to promote a mastery goal orientation in every student should recognize the diversity inherent in the individual student experience.

In an effort to clarify the relationship between teacher goal orientation and student goal orientation, Vedder-Weiss and Fortus (2013) examined the relationship between student perceptions of the goal emphases of their school, teachers, peers, and parents, their personal goal orientations, and their engagement in learning science concepts. Interestingly, student perceptions of the goal orientation of their teachers was more closely related to their own goal orientation than was their perception of their peers' goal orientation. There was a negative correlation between engagement and perceived performance orientation of teachers. When students perceived that the teacher had a performance goal orientation, when the goal of a lesson was evaluating and ranking ability, the students reported feeling less engaged in learning the material. Those students had less intrinsic and extrinsic motivation to learn whereas students who perceived that the goal of learning was to develop and improve (mastery goal orientation) were more likely to report higher engagement both in and out of the classroom.

Smart (2014) provided more evidence concerning the positive correlation between student goal orientations and perceptions of their teachers' behavior. Students were more likely to report mastery goal orientations for learning science when the perception of teacher behavior reflected cooperative learning and reflected belief in student ability. Stipek, Givven, Salmon, and MacGyvers (2001) also found that teachers who espoused a fixed mindset concerning the math ability of students encouraged performance goals in classrooms. This concurs with the findings of Anderman and Midgley (1996) that students adopt the perceived goal orientations of their educational environment, an environment that is highly dependent on individual teacher

choice and colored by the teachers' implicit ability beliefs. Just as perceptions of teacher goal orientations influence student behavior, teacher behavior is profoundly impacted by implicit beliefs concerning the innate ability of students.

Educators' Ability Beliefs, Achievement Goals, and Classroom Structure

There is a plethora of data concerning the relationship between the implicit ability beliefs of teachers, the achievement goals of teachers, and the classroom goal structure teachers create. Interested in how the implicit intelligence beliefs of teachers might affect the classroom goal structure they create, Shim et al. (2013) theorized that the achievement goals of teachers and their implicit beliefs about ability would affect the classroom goal structures the teachers implemented. By measuring educators' achievement goals for teaching and their beliefs about the malleability of intelligence, the only significant relationship to classroom goal structure was the educators' achievement goals. In considering how the achievement goals of teachers affect the academic achievement of students, Throndsen and Turmo (2013) observed a significant positive correlation between teacher mastery goal orientation and students' mathematics ability. Determining how the implicit ability beliefs of educators work in tandem with goal orientation and classroom goal structure is important as it could have an effect on student achievement, so further research remains necessary. Research by De Castella and Byrne (2015) showed that how implicit ability beliefs are measured is significant, and this could account for the discrepancy reported by Shim et al. (2013) between teachers' implicit ability beliefs and achievement goals. Investigations revealed that, although implicit ability beliefs for self were relatively stable, interpersonal implicit ability beliefs may vary; thus, how educators were asked to report their implicit beliefs may have also skewed results.

Another line of research showed that teachers who espoused an entity view of ability were more likely to make swift decisions concerning students' ability based on their first performance, and their opinion was more persistent than teachers with an incremental view of intelligence (Butler, 2000). The teachers with an entity viewpoint invested more time and energy in the students perceived as high ability, thus effectively creating a performance classroom structure. Shim et al. (2013) hypothesized that when achievement goals and implicit intelligence theories are theoretically consistent, the resulting goal structure is as expected wherein an educator with an incremental theory would establish a mastery structure; however, when the goals and beliefs are in opposition as was the case when teachers espoused incremental views along with mastery and performance-approach achievement goals for teaching, the resulting classroom structure reflected a performance orientation (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002). Yorke and Knight (2004) theorized that a mismatch between the implicit ability beliefs of teachers and students would influence student development either positively or negatively based on the teachers' beliefs wherein a teacher with incremental beliefs would transmit those to entity students, having a positive effect, or a teacher with entity views would negatively impact students with growth mindsets. Though the mismatch framework remains theoretical, it could also account for the inconsistency. The research suggested that educational personnel take care to explain the course standards and explicitly assist students in developing personal goals that start at the individual student's current ability level and stress incremental improvement. This must be accomplished carefully as how teachers view the ability of students to improve may differ significantly from the personal implicit ability beliefs they possess.

Intrapersonal and Interpersonal Implicit Ability Beliefs

There is a distinction in how people view the stability of their personal ability versus the stability of ability for others. Research by De Castella and Byrne (2015) found that altering the *Implicit Theories of Intelligence Scale* (Dweck, 1999) to reflect a first-person orientation resulted in an even stronger positive correlation between achievement, motivation, and incremental intelligence beliefs. Another significant difference between student responses on the original measure as compared to the altered, self-theory version was that when students evaluated intelligence as a general construct, the scores reflected higher entity beliefs; however, when assessing their personal intelligence, students were more likely to favor incremental beliefs. Kärkkäinen, Räty, & Kasanen (2008) found similar results in their research on the differences between intrapersonal and normative student evaluations of academic success potential. When considering personal capacity, students typically evaluated their potential for success higher than when considering the capability of other students.

Gutshall (2014) researched differences in teacher mindset, comparing their mindset beliefs when applied to self and to hypothetical student scenarios at the beginning of a teacher education program and at the conclusion of the educational program. There was a significant change in implicit ability mindset for hypothetical students at the beginning of the program to the end. When assessed at the end of the program, the aspiring teachers were less likely to indicate fixed mindsets concerning student scenarios than they were at the beginning of the program. There was no difference in their self-theories, with personal implicit intelligence beliefs for self remaining stable throughout the progression of the program. Another study by Gutshall (2013) also found that teacher beliefs about the stability of ability are affected by their interactions with students. These studies indicated that the practical relevance of implicit intelligence beliefs differs when applied to oneself as opposed to an interpersonal application; therefore, more

research is needed to better understand how implicit beliefs might influence behavior given that self-theory beliefs may be unrelated to the practical application of beliefs in relation to others.

Implicit Beliefs, Goal Orientations, Stereotypes, and Reflected Appraisal

Similar to Butler's (2000) research concerning the greater likelihood of educators with an entity theory of ability to make quick decisions regarding student capability based on one piece of evidence, Plaks, Stroessner, Dweck, & Sherman (2001) examined how implicit beliefs impact people's reactions to stereotypical information. Chiu et al. (1997), Dweck (1999), and Levy and Dweck (1998) provided evidence that implicit beliefs about personality and ability influenced how people viewed individuals as well as groups of people. Possessing an entity theory led people to be more likely to form trait attributions and to participate in stereotyping practices while incremental theorists were more likely to take a process-focused approach, believing that dynamic personal processes as well as environmental stimuli affected the behavior of people (Levy, Stoessner, & Dweck, 1998). An illustration of this is found in the study of hypothetical juries by Gervey, Chiu, Hong, and Dweck (1999) as jurors with incremental beliefs were more likely to ask for further character information about the defendant and were less affected by irrelevant stereotypic information, such as how the defendant dressed, than were entity theorists.

Based on this information, Plaks et al. (2001) theorized that entity theorists would focus on trait-specific information confirming established stereotypes because it would prove what was already expected. In contrast, individuals who possessed an incremental theory would focus on information that defied expectations in an effort to more fully understand the larger context, believing that behavior and ability may vary in dissimilar situations. Evidence supported this relationship, and Plaks, Grant, and Dweck (2005) further posited that, because implicit beliefs offered people a feeling of control, processing biases would occur in light of disconfirmation.

These processing preferences were more pronounced when information was limited, thereby obliging perceivers to make a judgment concerning which evidence was most likely accurate and reflective of the hypothetical person's behavior on a regular basis. The use of restricted hypothetical scenarios required participants to make assumptions regarding what type of behavior, consistent or inconsistent, was more diagnostically relevant (Skowronski, 2002). Given that entity theorists believe an individual's behavior will likely be stable, they were more likely to deem trait-consistent behavior relevant. On the other hand, incremental theorists were more likely to judge trait-inconsistent information as most valuable as it would provide more information about how that person or group reacts in a given situation. This conclusion was supported by the findings of Levy et al. (1998) that students with an entity implicit person theory regarded stereotypes as more prognostic of prospective behavior than students with an incremental implicit person theory. Entity theorists also reported higher levels of confidence in the scarce information they had available.

Additionally Babad (1998) provided evidence that teachers susceptible to stereotypical thinking were more likely to develop and preserve student expectations based on preliminary evidence. This type of thinking distinctly influenced how people scrutinized the malleability of behavior and ability of others. It provided evidence that people with an entity implicit person theory were more likely to judge others based on narrow social information and to make definite predictions concerning the future behavior of others (Levy et al., 1998). Alternatively, incremental theorists placed less extrapolative importance on behavioral trait data and were more likely to view the information cautiously (Erdley & Dweck, 1993). Thus entity theorists were more likely to display social stereotyping behavior and to believe that the stereotypes were reflective of inborn variations despite both entity and incremental theorists possessing the same

level of information about common stereotypes (Levy et al., 1998). The available information concerning implicit person theory indicates that educational personnel beliefs about the stability of ability may promote stereotypical perceptions about the future performance of pupils (Butler, 2000). Specifically, educators with entity beliefs would be more likely to view initial performance as indicative of innate ability and see disconfirming fluctuations as attributable to chance whereas incremental educators would be more open to amending student prospects based on new information.

As previously mentioned, generic categorical references made about the ability of groups of people could affect student performance because it creates stereotypical thinking through the implication that the trait is fixed based on race, gender, or socioeconomic status (Cimpian, 2010). Having knowledge that one belongs to a stereotypical group may also negatively impact student behavior. Belonging to a classification that is underrepresented in a particular domain may result in a greater possibility of being appraised as lacking in ability (Steele & Aronson, 1995). Researchers discovered that when people found themselves in a position wherein confirmation of a known negative stereotype might be substantiated, there was a significant decline in performance (Schamader & Croft, 2011). Deemed stereotype threat, it is an environmentally induced intimidation based on a known adverse judgment that can precede a self-fulfilling prophecy of reduced achievement and/or increased anxiety (Murphy, Steele, & Gross, 2007; Steele & Aronson, 1995). When the primary purpose of an assessment was perceived as diagnostic or selective, the stereotype threat could be activated; thus, it was not assessment per se that created the threat, but rather the understood intention of the assessment (Inzlicht & Kang, 2010).

Research concerning self-concept development also provided evidence that the implicit ability beliefs of educational personnel and stereotypical judgments may directly impact student mindset. The work of Cooley (1968) and Mead (1994) referred to reflected appraisal, or the tendency for cognizance of self to be based on an understanding of how one is viewed by others. This would account for the stereotype threat phenomenon experienced in some educational environments, and Correll (2004) specifically pointed to teachers as being perceived as authentic assessors for children because students were more likely to trust the opinions of someone they considered knowledgeable. Through this reasoning, it is possible that teacher mindset would be reflected in how students view themselves, and research by Bouchey and Harter (2005) reinforced the supposition. They found that the beliefs of students concerning their math competence was positively predicted by the students' opinions regarding how their teacher viewed the students' ability.

Souchal et al. (2014) demonstrated this phenomenon with high school science students in their study concerning the negative stereotype of lowered ability for female students. When assessment techniques emphasized normative social comparison, female science students were more likely to adopt performance goals and overall performance decreased. Alternatively, when the emphasis of the assessment was learning and progress, mastery goals were more likely, and the achievement of female science students was not suppressed by stereotype threat. The male students, not subject to any stereotype threat concerning ability to learn science, performed at the same level regardless of which type of achievement goals, mastery or performance, were activated. Moreover, Aronson, Fried, and Good (2001) showed that African-American college students subjected to stereotype threat were able to achieve higher grades and report more satisfaction with learning after an intervention designed to teach them about incremental ability

beliefs. Research indicates that the students were able to overcome the negative influence of the stereotype when they embraced a growth mindset towards their learning. This research shows that possessing incremental beliefs can help people overcome stereotypic information as applied to self or others.

Implicit Beliefs and Performance Appraisal

Researchers have shown that implicit person theory affects how people of varying ages view themselves and others, and this is true for performance appraisals as well. Erdley and Dweck (1993) found that children with an entity theory, believing that personal attributes are fixed traits, adhere to more strict social judgments. Even when the fourth and fifth graders viewed counterevidence, entity theorists did not significantly change their ratings of the hypothetical student who initially exhibited negative behaviors. The students viewed a narrated slide show involving a new student, who in an effort to fit in at a new school, engages in cheating or stealing. The stressors the new student faced were highlighted throughout the slides, but the children with a fixed mindset showed less empathy and suggested harsher punishments than the incrementalists. Entity theorists were more prone to make diagnostic assumptions regarding global personality traits based on limited behavioral evidence.

Heslin, Latham, and VandeWalle (2005) conducted similar research on adults who were managers of a hydroelectric plant in Canada. After watching two videos of a hypothetical employee exhibiting poor performance and evaluating the performance and then viewing two more videos of the same individual containing evidence of exemplary performance and re-evaluating the worker, managers with an incremental theory were significantly more likely to acknowledge improvement. A subsequent study wherein the order of the poor and good work

videos were switched revealed similar results. The entity managers remained disinclined to alter their initial evaluations despite having viewed the disconfirming evidence.

Rattan et al. (2012) showed that student performance appraisals by aspiring educators were also influenced by the implicit ability beliefs of the educators. Graduate-level education students with an entity ability theory concerning mathematics achievement were considerably more likely to label students as having low math ability based upon an initial assessment. The entity theory graduate students who were actual instructors of entry-level college courses were also more likely to employ instructional techniques that have been shown to reduce engagement in students, such as lowered standards or the utilization of comfort statements presumed to help students accept their low ability. Furthermore, the instructors possessing an entity implicit ability theory stated they did not anticipate future improvement from their students perceived as possessing low ability. The researchers concluded that educators with a fixed view of ability do consider their students' best interests, but possessing entity views on intelligence caused them to express their concern in counterproductive ways by discouraging future attempts or further study in the field. Comfort statements designed to soften the blow of perceived low ability could disengage students from entire fields of study despite being based on hastily-made prognostics.

Additionally, Butler (2000) found that the two implicit theories of ability differed also on the types of feedback considered indicative of positive appraisal. Entity theorists focused more on feedback that compared a subject to the performance of others and rated ability higher when the subject had a positive normative appraisal. Incremental theorists were more sensitive to temporal feedback and determined that data over time was more suggestive of ability. Chiu et al. (1997) proposed that implicit theories about persons provide a context for comprehending the social world. People who subscribed to implicit entity beliefs were more self-assured that

personality traits would be predict behavior and remain stable across conditions, while incremental believers were more likely to turn to psychological or environmental reasons for behavior. Chiu (1994) demonstrated that, when trait indicators and goal information were overtly described, entity theorists utilized trait information to formulate impressions about people whereas incremental theorists found the goal information more relevant.

These findings were replicated in western and eastern cultures, reducing the possibility that individualistic socialization impacts implicit theory formation, and they were consistent for both appraisals of others as well as self-appraisal (Butler, 2000; Chiu et al., 1997). Butler (2000) summarized her research by observing that entity views place greater expectations on temporal consistency, and therefore, entity theorists face more appraisal ambiguity when performance fluctuates over time. To compensate for the uncertainty, entity theorists would be more likely to attach greater emphasis to initial performance and credit more recent performance to luck (a primacy effect) while incremental theorists would be more likely to regulate their appraisal through consideration of variables over time. Educational personnel who possess entity beliefs might then be more prone to perceive that initial ability would predict future outcomes and thus performance appraisals for their students would be more likely to underestimate or overestimate potential for achievement based on the originally developed impression. This inclination could have a significant impact on school admissions decisions.

Admissions Procedures and Possibility of Implicit Beliefs Influence

How students are selected for admissions to competitive school environments is important as it can have an impact on future college admissions and professional contacts (Snell, Thorpe, Hoskins, & Chevalier, 2008). For students seeking admission to higher educational institutions in the United Kingdom, teacher predictions of student performance on assessments

were highly correlated to admission despite the fact that the predictions were found to be unreliable. Research by Wyness (2016) revealed that teachers were accurate in their grade predictions only sixteen percent of the time. Though much attention has been paid to the selections process for attending college, little research has been conducted on the admissions procedures for secondary independent schools (Grigorenko et al., 2009; Grace, 2011). More research is needed to better understand the selection criteria utilized and to reduce the possibility that the implicit person beliefs of educational personnel might impact admissions management decisions.

Changes in marketing strategies along with increased parental interest triggered an increasingly competitive independent school admissions process (Schuster, 2009). Baker (2012) described enrollment management in independent schools as "an institutional response to the challenges and opportunities that recruiting and retaining the right student body present to a school's financial health, image, and student quality" (p. 108) and emphasized the importance of ensuring that all employees of the school maintain shared responsibility for enrollment management. Enrollment management consists of four primary tasks: admissions management, retention, data management, and marketing.   Independent schools are typically non-profit businesses, and they depend on tuition for operational expenses. Ensuring enrollment goals are achieved is essential for continued success, but how enrollment goals are achieved may differ from school to school. Typically independent schools follow one of four basic models for enrollment management: senior administrative team, committee, admission office, or divisional. The models differ primarily in how many personnel are involved in decision-making and in how the strategic plan for enrollment is developed. Regardless of which model is utilized, however, a well-formulated and clearly communicated process is necessary for effective admissions.

Careful consideration of the factors involved in admissions management may reveal inconsistencies between the mission of the school and the strategic enrollment plan.

As autonomous institutions, independent schools can develop their own admissions procedures, but most rely on similar sources of information when it comes to determining which students will be offered admission. Schuster (2009) surveyed 124 admissions directors at independent secondary schools to determine the most commonly referenced criteria for admissions decisions as well as the criteria deemed the most important. Four factors emerged as the most common and the most important selection gauges: grades, standardized test scores, teacher and community member recommendations, and student interviews. The methods by which the criteria are utilized may differ significantly from one school to the next though, and some independent schools more recently began looking at alternatives to the traditional measurements.

Looking to changes in the admissions procedures for colleges provided some context for changes in the similar processes for independent schools. Tufts University, for example, developed an alternative admittance exam in 2006, the Kaleidoscope system, created to measure creative, practical, logical, and reasoning skills (Grace, 2011). Based on the work of Sternberg (2003) concerning successful intelligence that he termed WICS (wisdom, intelligence, and creativity synthesized), the new procedure reportedly was more accurately correlated with academic achievement as well as leadership potential. Independent schools started to take notice and began aligning their admissions process with Sternberg's ideas, developing ways to calculate the more qualitative characteristics of applicants (Grace, 2011). In 2014, the Secondary School Admission Test Board (SSATB) surveyed admissions personnel and found that many school have incorporated some form of noncognitive skill assessment into their admissions process

(Hoerle, 2014). The noncognitive skills considered most important for academic success by the admissions personnel were creativity, problem-solving ability, curiosity, self-control, and motivation.

As independent schools started changing their admissions procedures, research was conducted to determine if the amendments improved the process. One group of researchers decided to examine the factors contributing to academic performance differences after admission to an independent school. The sample consisted of enrollees at Choate Rosemary Hall, a highly regarded and extremely competitive independent school located in Connecticut (Grigorenko et al., 2009). The admissions process for Choate formerly included collecting information regarding the students' middle school GPA, scores from the Secondary School Admission Test (SSAT), and teacher recommendations. Though all new students had a similar profile on admittance, their eventual academic success was noted to vary greatly. In attempting to enhance the academic success predictions made by the admissions team, the researchers added teacher ratings as well as measures of self-regulated learning (Pintrich, 2000) and the WICS framework (Sternberg, 2003). SRL was assessed through student self-report surveys on self-esteem, academic self-efficacy, academic locus of control, and academic motivation, and WICS constructs were measured through a school life inventory, a creative writing task, and a set of ethical reasoning problems (Grigorenko et al., 2009). The researchers referred to this series of assessments as the PACE (Psychology of Abilities, Competencies, and Expertise) Battery. The results showed that middle school GPA, SSAT Quantitative score, and the Academic Self-Efficacy and School Life Inventory of the PACE Battery were all predictive of future GPA to some degree. Overall middle school GPA was the best predictor, accounting for 29% of the variance in GPA while SSAT and PACE data explained approximately 10% each.

In a follow-up study, the researchers reduced the PACE Battery for efficiency (Grigorenko et al., 2009). Only self-report measures of academic self-efficacy, academic locus of control, and academic intrinsic/extrinsic motivation and a creative writing task rated by the admissions team were administered. Middle school GPA continued to be most strongly associated with future GPA, followed by SSAT Quantitative and the academic motivation survey. The admissions personnel ratings of the writing task were not predictive of future academic success. Overall, the researchers concluded that, by using measures of self-regulated learning, WICS, or other psychological theories along with standardized testing information, the future performance evaluation of prospective students could be enhanced. Kohn (2012), on the other hand, issued strong opposition to the use of any standardized test for admissions purposes. According to his research, standardized tests best predict socioeconomic status rather than potential for academic achievement, of which previous GPA is a better predictor as evidenced by Grigorenko et al. (2009).

Another line of research by Campbell (2014) found that teachers can be influenced by other factors when considering student ability. Her research indicated that teachers in England were more likely to place early primary school students into ability groups based on their age. Younger students, born in the summer months, were more likely to be placed in lower ability groups and older children with fall birthdays were more often placed in the highest ability groups. Alarmingly, this practice has potentially far-reaching consequences as the students continue to score lower on academic achievement assessments throughout their years of compulsory education. Based on the research by Grigorenko et al. (2009), Wyness (2016), and Campbell (2014), student performance appraisal by educational personnel does not appear to

have any predictive utility and has potential for harm, yet admissions departments continue to collect teacher recommendations.

Considering the potential for bias by admissions personnel, Schuster (2009) found only one statistically significant relationship in responses from admissions directors on the basis of age, gender, or educational attainment. The only significant finding reported was that admissions directors with doctoral degrees were less likely than those with a bachelors or masters degree to deem grades important in the admissions decision process. This finding is interesting in light of the fact that Grigorenko et al. (2009) found previous grades to be the most significant indicator of future academic success. No information was available concerning whether or not the practical implicit person theory and corresponding goal orientations of admissions personnel and faculty in independent schools affected their admissions recommendations.

Summary

Researchers have established the relationship between implicit intelligence theory and goal orientation (Blackwell et al, 2007). Support has also been found for student mindset and resulting goal orientation being positively correlated with academic achievement (Farrington et al., 2012). Additionally, student achievement was found to be predictable based on classroom observations (Allen et al., 2013). The classroom goal structure positively predicted the goal orientations of students, lending credence to the notion that mindset and goal orientation can be transmitted through the spoken language, observable behavior, and environmental cues established by educational personnel. Research also illustrated that how people are judged, especially relating to potential for future success, was highly dependent on the implicit person theory of the rater. Though understanding that a teacher's implicit intelligence theory and

resulting goal orientation affects the classroom goal structures they establish, and that this influences their students' goal orientation, research is still needed to discern the relationship between educational personnel's self-reported intelligence theories, goal orientations, implicit beliefs about student ability, and student performance appraisals. Few studies have empirically examined the relationship between implicit ability beliefs for others and goal orientations of educational personnel nor determined if the relationship would have any effect on the admissions decisions at independent schools. Given that the assessment of prospective student success potential is based on limited information, more research is needed to determine if this assessment is possibly influenced by stereotypical beliefs, goal orientation, and underlying interpersonal implicit ability beliefs possessed by the individuals tasked with making such prospective performance appraisal decisions. More research is also needed to understand how independent school educators may be influenced by their implicit ability beliefs concerning students, their personal goal orientations, and their perceptions of their school's goal structures, especially given their relative autonomy among educational institutions.

Chapter Three

Research Methodology

As it would be of great benefit to educational personnel to better understand incremental theory of ability and the importance of a mastery goal orientation, an effective way to evaluate how the implicit ability beliefs and goal orientations of educators might affect their decisions regarding student success potential is needed (Patrick et al., 2001). Students perceive information concerning the personal intelligence beliefs and goal orientations of educators through established goal structures in classrooms and as well as through written and verbal communication, grading practices, classroom organization, and classroom activities, but it was unknown how consciously aware educators were of their implicit beliefs about ability and exhibited goal orientations (Ames, 1992; Shim, Cho, & Cassady, 2013; Smart, 2014). By utilizing hypothetical student scenarios, Gutshall (2013) revealed teachers' mindsets were less likely to remain stable when applied to individual student situations. Employing a similar research design in a different context, this study furthered knowledge concerning how educational personnel's mindsets and goal orientations affected their admission decisions in an independent school setting. This nonexperimental quantitative study collected data on educational personnel's beliefs about intelligence and motivation for achievement and sought to determine if these beliefs were related to their observable behavior when making overt decisions. The results of this study were used to inform ways to foster mastery goal orientations and growth mindsets concerning the admittance procedures at independent schools.

Research Questions

Question 1: Are school personnel's scores on the Perceptions of the School Goal Structure for Students subscales of the *Patterns of Adaptive Learning Scale* (PALS) correlated with their implicit theory of ability scenario results (Gutshall, 2013; Midgley et al., 2000)?

H_1: There will be a statistically significant relationship between the participants' scores on the Perceptions of the School Goal Structure for Students subscales of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios. Teachers with a high mastery goal structure survey score are more likely to have an incremental view of student success on the scenarios while faculty with a high performance goal structure score will be more likely to have an entity, or fixed, view on the student scenarios. In this hypothesis, the independent variable is the PALS subscale score and the dependent variable is implicit intelligence theory student scenario score.

H_{01}: There is no relationship between the participants' scores on the Perceptions of the School Goal Structure for Students subscale of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios.

Question 2: Are school personnel's scores on the Approaches to Instruction subscales of the *Patterns of Adaptive Learning Scale* (PALS) correlated with their implicit theory of ability scenario results?

H_2: There will be a statistically significant relationship between the participants' scores on the Approaches to Instruction subscales of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios.

Teachers with a high mastery approach survey score are more likely to have an incremental view of student success on the scenarios while faculty with a high performance approach will be more

likely to have an entity, or fixed, view on the student scenarios. In this hypothesis, the independent variable is the PALS subscale score and the dependent variable is implicit intelligence theory student scenario score.

H_{02}: There is no relationship between the participants' scores on the Approaches to Instruction subscales of the *Patterns of Adaptive Learning Scale* (PALS) and their results from the student implicit ability beliefs scenarios.

Population and Sample

This research was conducted at three mid-sized suburban independent schools in Southeastern Tennessee in the winter of 2017-2018. Seventy-one of 94 eligible educators participated, resulting in a response rate of 75.5%. A little over half of the participants were female (41; 57.7%). Participants in the study included 51 middle school teachers and 20 admissions counselors. The voluntary participants were selected through convenience sampling and are representative of the faculty at other independent schools in the Southeast. Based on the participant-provided demographic information, 29 of the participants reported 0-14 years of experience while 42 claimed 15 or more years in the educational profession. As independent school educators, it was not a requirement of employment to have a degree in education. Of the 71 participants, 34 (47.9%) indicated they received degrees in education while the remainder (37; 52.1%) received degrees in a content-related field. The majority (71.8%) received graduate level degrees.

Description of the Instruments

The *Patterns of Adaptive Learning Scales - Revised* (PALS) consist of five student subscales and three teacher subscales (Midgley et al., 2000). The student scales are Personal Achievement Goal Orientation, Perception of Teacher's Goals, Perception of Classroom Goal

Structures, Academic-Related Perceptions, Beliefs, and Strategies, and Perceptions of Parents, Home Life, and Neighborhood. The three teacher subscales measure Perceptions of the School Goal Structure, Approaches to Instruction, and Personal Teaching Efficacy. All of the subscales of the PALS result in two scores (one for performance and the other for mastery) and utilize a five-point Likert scale that ranges from 1 (Strongly disagree) to 5 (Strongly agree). To validate the scales, the researchers conducted confirmatory factor analysis and determined that the different goals loaded on different latent factors, thus verifying the theoretical model (Midgley et al., 2000). High internal consistency was also established for the scales.

Rather than using Dweck's (2006) *Implicit Theories of Intelligence Scale*, educator mindset data were obtained by using hypothetical student scenarios similar to ones developed by Gutshall (2013) and used with permission from the author. Many teachers, having read Dweck's (2006) book, are familiar with the *Implicit Theories of Intelligence Scale* and responses may therefore be skewed by prior knowledge. Gutshall's research revealed that having participants provide information about intelligence beliefs pertaining to others through the use of student scenarios resulted in a different mindset than when participants reported their implicit ability beliefs for self. The student scenarios utilized in this study described a student with positive characteristics (such as leadership, enthusiasm, and/or perseverance) who was also struggling academically in some way (e.g. poor assessment performance, diagnosed learning disability). In the four possible scenarios, students were either female (Carly or Michelle) or male (Charlie or Michael). In the scenarios about Michelle or Michael, the only difference was the gender while the same was true of the scenarios for Carly or Charlie. In the scenarios, Carly and Charlie were identified as having a diagnosed learning disability while the scenarios concerning Michelle and

Michael pointed to a poor entrance exam score. The four possible student scenarios are provided below:

> *Michelle is described as enthusiastic and determined by her teacher. Her performance on classroom assessments is average; however, she performed very poorly on the entrance exam. It seems that Michelle has difficulty retaining main concepts and later applying them. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.*

> *Michael is described as enthusiastic and determined by his teacher. His performance on classroom assessments is average; however, he performed very poorly on the entrance exam. It seems that Michael has difficulty retaining main concepts and later applying them. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.*

> *Carly is described as having many friends and being kind to all. She is an enthusiastic participant in class according to her teacher. Though she performed in the low average range on the entrance exam, she has been unsuccessful on classroom assessments. According to her parents, Carly has been diagnosed with a learning disability. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.*

Charlie is described as having many friends and being kind to all. He is an enthusiastic participant in class according to his teacher. Though he performed in the low average range on the entrance exam, he has been unsuccessful on classroom assessments. According to his parents, Charlie has been diagnosed with a learning disability. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.

The first three questions that followed the scenarios were modeled after the three-item mindset survey developed by Dweck and Henderson (1989) but were worded to reflect beliefs about others rather than self (Gutshall, 2013). The statements asked participants to rate their agreement on a six-point Likert scale from 1 (strongly disagree) to 6 (strongly agree) and were worded as follows: "(Student name) may be able to perform better in school; however, (her/his) real ability will not change," "Because (Student name) has difficulties grasping the main concepts, it will be difficult for (her/him) to improve (her/his) ability, and "(Student name) will probably make progress in school, but (her/his) overall ability will not change much." These three items were reverse scored consistent with Dweck, Chiu, and Hong's (1995) methodology. The final question was rated on the same scale (not reverse scored) and asked participants to indicate how successful they thought the hypothetical student would be if admitted to the school. The scores for the questions were averaged to obtain educator mindset with a score of six indicating a high growth mindset while a score of one would denote a decidedly fixed mindset (Gutshall, 2013). The original survey created by Dweck and Henderson (1989) has high internal consistency and high test-retest ability. The three-item measure was adapted from the longer *Implicit Theories of Intelligence Scale* consisting of eight statements because researchers found the reiteration of the

same question to be monotonous and uninteresting for respondents (Dweck, Chiu, & Hong, 1995; Hong et al., 1999).

Research Procedures

The research proposal was approved by the Institutional Review Board (IRB) of Carson-Newman University in the fall of 2017. Once approved, the researcher contacted the administration at the site schools to secure written permission to ask for voluntary participants. The school administrators referred the researcher to the leaders of the middle school divisions. After contacting the division administrators, the researcher selected days to visit the sites based on the available dates determined by the administrators. During the site visits, the research procedures were described and informed consent (see appendix A) was obtained from those individuals willing to complete the study. The first site was visited one morning during a professional development day. The researcher visited the second site one day after school and another day before school started. Finally participants were recruited at the third site during the school during while personnel attended one of three grade level meetings or a department meeting. After the informed consent was signed, the participants were given a packet to complete. The packet contained a demographic sheet (see appendix B) followed by one of the four hypothetical student scenarios (see appendix C) and then the two subscales of the *PALS* (see appendix D). The demographic sheet asked the participants to provide information regarding their gender, age, educational attainment, type of degree obtained, and years of experience. Participants were free to leave after the completed forms were returned to the researcher. Participants returned the informed consent document separately from the scenarios and surveys to maintain confidentiality.

Data Analysis

To assess the relationship between the variables in both research questions, the data were analyzed with Microsoft Excel Analysis ToolPak. Spearman's rank correlation coefficient (Spearman's rho) was utilized to determine the relationship between the two variables for each of the questions (Ary, Jacobs, Sorensen, & Walker, 2014). Spearman's rho provides a measure of the strength and direction of the association between two variables when at least one of the variables is nonparametric. Since both surveys provide final results from a Likert scale, it cannot be assumed that the scores are normally distributed thus the Pearson product moment correlation coefficient was not used. Additionally t-tests for independent samples were conducted to ensure the results were not unduly influenced by the gender, age, degree attainment, type of degree obtained, scenario option, years of experience, or primary job responsibility of the respondents. The t-test for independent samples compares the difference between the means of the two samples to the difference probable by coincidence (Ary et al., 2014.)

Chapter Four

Analysis of Data

Through the development of hypothetical student scenarios, Gutshall (2013) revealed teachers' mindsets were less likely to remain stable when applied to individual student situations. Employing a similar research design in a different context, this study sought to expand the body of knowledge regarding how the goal orientations of educational personnel might affect their admission decisions and interactions with students in an independent school setting. This nonexperimental quantitative study collected data on educational personnel's motivation for achievement and compared that information to their observable behavior when making overt decisions concerning the success potential of students. The researcher hypothesized that a statistically significant relationship between the educators' subscale scores of the PALS and their results from the student implicit ability beliefs scenarios would be observed.

Results for the Research Questions

The researcher utilized Microsoft Excel Data Analysis Toolpak to assess the inferential correlation between the variables. As Likert-type surveys provide ordinal data, a rank correlation was necessary given that Pearson's product moment correlation coefficient is only indicated for variables with a linear relationship and may be severely influenced by any outliers (Croux & Dehon, 2010). Scatterplots of the variables revealed nonlinear relationships as well as outliers (see Figures 4.1- 4.4).
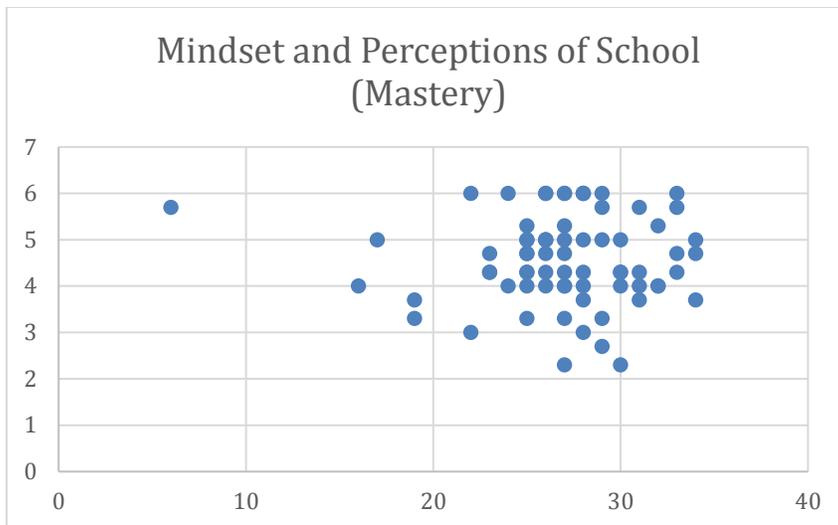
Figure 4.1. Scatterplot of educator mindset and Perceptions of School (Mastery) scores.

Figure 4.2. Scatterplot of educator mindset and Perceptions of School (Performance)

scores.
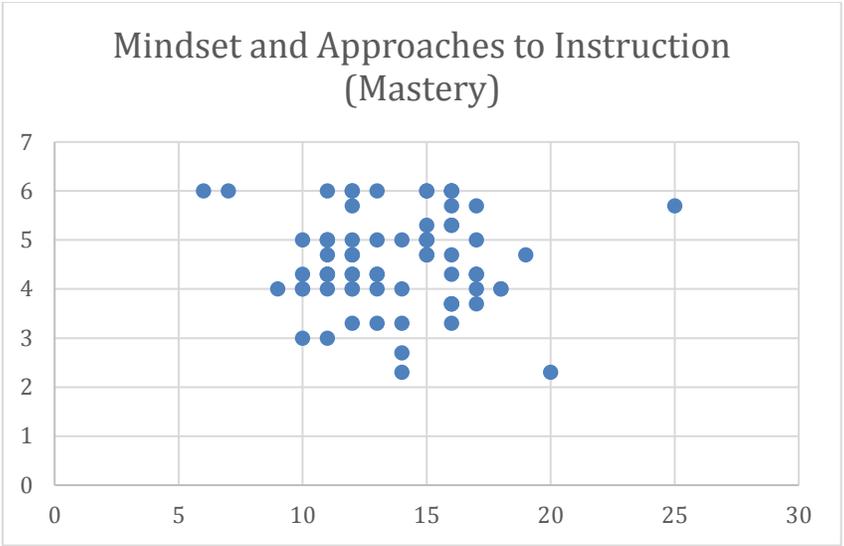
Figure 4.3. Scatterplot of educator mindset and Approaches to Instruction (Mastery) scores.
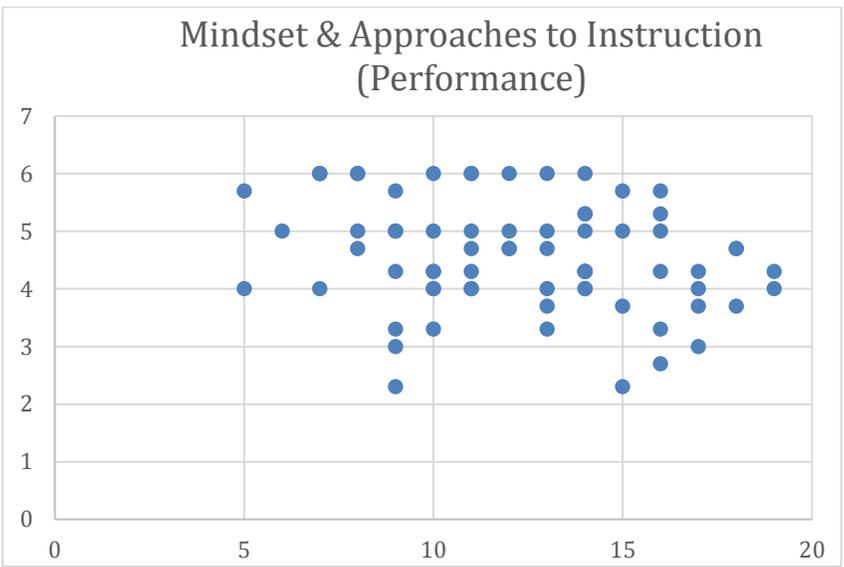
Figure 4.4. Scatterplot of educator mindset and Approaches to Instruction (Performance) scores.

Other researchers found that Kendall's tau is negatively impacted by ties in ranks, so the researcher employed Spearman's rank correlation (rho) instead because of the number of tied scores among participants observed in the data analysis process (Puth, Neuhauser, & Ruxton,

2015). The value of rho can range from -1 to 1, and weaker associations among the ranks are found closer to zero. A positive coefficient indicates that the ranks among the two variables moved in the same direction while a negative coefficient indicates that as the ranks of one variable decreased, the ranks of the other variable increased. The alpha level, or level of significance, was set at $\alpha = 0.05$. The alpha level refers to the probability that a Type I error occurred. A Type I error refers to a rejection of the null hypothesis when in fact the null hypothesis is true (Ary et al., 2014). With the alpha level set at $p < .05$, the probability of the relationship between the two variables occurring by chance is 5 times out of 100.

Question 1: Are school personnel's scores on the Perceptions of the School Goal Structure for Students subscales of the *Patterns of Adaptive Learning Scale* (PALS) correlated with their implicit theory of ability scenario results (Gutshall, 2013; Midgley et al., 2000)?

This question required two correlations, one for the Perceptions of School Goal Structure for Students (Mastery) subscale and another the Perceptions of School Goal Structure for Students (Performance) subscale. For the Perceptions of School Goal Structure (Mastery) and mindset score, a strong positive correlation emerged (rho = 0.74). Consultation of the Spearman rho critical values table indicated that this rho is significant at the p = 0.001 level for n = 71 (Ramsey, 1989). This suggested that there was less than a 0.1% chance that the strength of the relationship observed within this sample happened by chance. When the participants perceived the school environment reflective of a mastery orientation, their resulting Perceptions of School Structure (Mastery) score was higher. Similarly, their mindset scores, or their beliefs concerning the ability and success potential of students, were more likely to be higher. For this sample, a higher mindset score indicated a belief in the malleability of intelligence.

A corresponding negative correlation was obtained for the relationship between educator mindset score and Perceptions of School Goal Structure (Performance) though it was slightly weaker (rho = - 0.49, p < 0.001). This also suggested a less than 0.1% chance that the strength of the relationship that was detected emerged by chance and revealed that the participants were more likely to relate a low mindset score (indicative of a fixed mindset) as their scores on the Perceptions of School Goal Structure (Performance) were higher.

Question 2: Are school personnel's scores on the Approaches to Instruction subscales of the *Patterns of Adaptive Learning Scale* (PALS) correlated with their implicit theory of ability scenario results?

This question also required two correlational considerations. Looking at the Approaches to Instruction (Mastery) scores and educator mindset scores resulted in a rho = 0.54. This is a moderate positive correlation and is significant at the p = 0.001 level. As the mindset scores for educators increased, their scores on the Approaches to Instruction (Mastery) subscale of the PALS were also more likely to increase. Again, the data analysis showed a negative correlation concerning the Performance subscale of the Approaches to Instruction and educator mindset, though this one was slightly stronger than the Mastery scores. The rho for Approaches to Instruction (Performance) and educator mindset was -0.63 and was also significant at the p = 0.001 level.

Other Relevant Findings

In order to ascertain whether or not the data collected were influenced by the gender, age, degree attainment, type of degree obtained, scenario option, years of experience, or primary job responsibility of the respondents, the researcher conducted t-tests for the means of independent samples. Several significant interactions were observed concerning the years of experience of

participants as well as their primary job responsibility. The t-test results are illustrated in Tables
4.1 – 4.5.

When looking at participants' years of experience in the educational field, the researcher

noted differences in the compared means of educators with 0-14 years of experience and those

with 15+ years of experience. The mean difference between the mindset score of the two groups,

as well as their scores on the Approaches to Instruction (both Mastery and Performance)

subscales, were significantly different. The other significant finding concerned the participants'

primary job responsibility. The mean mindset score and the Approaches to Instruction

(Performance) mean subscale scores of participants who indicated their key role at their school

was in admissions were significantly different than those who identified as predominantly

teaching faculty.

Table 4.1. Years experience and mindset.
t-Test: Two-Sample Assuming Unequal Variances

	0-14	*15+*
Mean	4.24137931	4.81428571
Variance	0.58965517	1.01930314
Observations	29	42
Hypothesized Mean Difference	0	
df	68	
t Stat	-2.7127278	
P(T<=t) one-tail	0.00422262	
t Critical one-tail	1.66757228	
P(T<=t) two-tail	0.00844523	
t Critical two-tail	1.99546893	

Table 4.2. Years experience and Approaches (Perf).
t-Test: Two-Sample Assuming Unequal Variances

	0-14	*15+*
Mean	13.4137931	11.4047619
Variance	10.6083744	12.441928
Observations	29	42
Hypothesized Mean Difference	0	
df	63	
t Stat	2.469129	
P(T<=t) one-tail	0.00813381	
t Critical one-tail	1.66940222	
P(T<=t) two-tail	0.01626763	
t Critical two-tail	1.99834054	

Table 4.3. Years experience & Approaches (Mastery).
t-Test: Two-Sample Assuming Unequal Variances

	0-14	*15+*
Mean	12.7586207	14.42857143
Variance	6.97536946	10.59233449
Observations	29	42
Hypothesized Mean Difference	0	
df	67	
t Stat	-2.3790296	
P(T<=t) one-tail	0.01010727	
t Critical one-tail	1.66791611	
P(T<=t) two-tail	0.02021454	
t Critical two-tail	1.99600835	

Table 4.4. Job and mindset.
t-Test: Two-Sample Assuming Unequal Variances

	Admissions	Teaching
Mean	4.11	4.764705882
Variance	0.78094737	0.858729412
Observations	20	51
Hypothesized Mean Difference	0	
df	36	
t Stat	-2.7694775	
P(T<=t) one-tail	0.0044103	
t Critical one-tail	1.68829771	
P(T<=t) two-tail	0.00882061	
t Critical two-tail	2.028094	

Table 4.5. Job and Approaches (Perf).
t-Test: Two-Sample Assuming Unequal Variances

	Admissions	Teaching
Mean	14.4	11.37254902
Variance	8.35789474	11.71843137
Observations	20	51
Hypothesized Mean Difference	0	
df	41	
t Stat	3.76184531	
P(T<=t) one-tail	0.00026411	
t Critical one-tail	1.682878	
P(T<=t) two-tail	0.00052823	
t Critical two-tail	2.01954097	

Summary

The study revealed several significant findings for the population of independent school educators studied. Statistically significant differences were found using t-tests for independent means based on different years of experience as well as the respondents' primary job responsibility. The researcher was unable to reject the null hypotheses for the research questions. Significant relationships were observed between the variables of educators' mindsets for others and the obtained scores on the Mastery and Performance sections of the PALS subscales (Perceptions of School Goal Structure and Approaches to Instruction). The Spearman's rank correlations (rho) for all four options were unlikely to occur by chance based on the critical values for a sample size of 71 participants. Additionally, all four correlations were moderately strong in terms of their distance from zero, demonstrating a statistically significant association among the ranked variables.

Chapter 5

Conclusions, Implications, and Recommendations

This study sought to develop a greater understanding of how the goal orientations of educational personnel in independent schools might affect their beliefs concerning the abilities and success potential of hypothetical students. The mindsets and goal orientations of educators can be perceived through their language choices, overt behavior, and school and classroom structures (Smart, 2014). Given that previous studies also indicated that individuals' mindsets concerning the ability of others may differ from their implicit beliefs concerning their personal ability, a better understanding of how mindset and goal orientation might impact educational personnel at independent schools is warranted (De Castella & Byrne, 2015; Gutshall, 2013). Two research questions were posited, and the interactions among the factors are discussed in this chapter.

Discussion

Perceptions of the School Goal Structure for Students subscale. For the first research question regarding the interaction between the Perceptions of School Goal Structure for Students and educators' implicit ability beliefs regarding students, the results indicated a moderate relationship between the ranked associations. This relationship indicates that when the educators perceived their school to possess mastery structures, being more concerned with individual student growth rather than ranking students by ability, the educational personnel were more likely to report a growth mindset concerning the potential of hypothetical students. The opposite was also true. When educators believed that the school leaned more heavily toward performance structures, their mindset scores were depressed and reflective of entity beliefs.

This data analysis suggests that school administrators should consider the ways in which employees and students alike might observe what is deemed important at the school. If academic competition is encouraged and only high achievement is extolled, a fixed mindset among educators and students could be encouraged. Given the correlation between student mindset and academic achievement, research suggests that higher achievement would be better pursued through a focus on individual effort and personal goal setting (Farrington et al., 2012). It may also benefit administrators to occasionally assess the perceived goal structures of the school to ensure that mastery structures are seen as having a greater emphasis.

Approaches to Instruction subscale. The second research question examined the interactions between the Approaches to Instructions subscale and educator beliefs concerning the success potential of hypothetical prospective students. Spearman's rho for the second question revealed a moderate association between the ranked factors. When educators reported a high mastery approach to instruction, they were also more likely to report a higher mindset score concerning implicit ability beliefs about students. Conversely, when the performance approach score was higher, the mindset score of educators was more likely to reflect a fixed belief concerning student ability.

These results support the notion that what educators communicate to their students regarding what is valued could also mold their implicit beliefs about students' potential for success, and this could impact students' beliefs about their own ability (Patrick et al., 2001). In an independent school environment, wherein teachers have far more autonomy to establish personal classroom structures, it might prove advantageous to administrators to assess the goal orientation of faculty members. Additionally, providing professional development concerning ways to communicate mastery orientation could also be beneficial.

Admissions counselors and teaching faculty. The t-test for independent means concerning primary professional responsibilities revealed statistically significant differences between admissions counselors and teaching faculty. The mean mindset for admissions counselors ($\overline{X} = 4.11$) compared to the mean mindset of teaching faculty ($\overline{X} = 4.7$) was significant at the p = 0.001 level. The mean score on the Approaches to Instruction (Performance) subscale was also significantly different among admissions counselors when compared to teaching faculty; however, the small sample size, the potential for skewed results because many teaching faculty members are likely familiar with mindset theory, and lack of classroom teaching experience among some admissions counselors makes it hard to postulate rationale for this finding. It is possible that providing admissions departments with professional development concerning implicit ability beliefs theory might provide a new lens through which to consider admissions procedures. Drawing from the results of Choate Rosemary Hall study, helping admissions departments develop measures of self-regulated learning, wherein high scores would indicate a mastery goal orientation, might prove to be better assessments concerning the success potential of prospective students (Grigorenko et al., 2009).

Years of experience. Another finding of the present study concerned the difference in some scores based on the number of years worked in the educational field. For educators who had accrued 0-14 years of experience, the mean difference in mindset and in the performance and mastery scores for the Approaches to Instruction resulted in significantly different means when compared to educators with 15 years or more of experience in the field. Educators with less than 15 years of experience reported an average mindset of 4.2 while those with 15 years+ had a mean mindset score of 4.8. The difference in the respective means for Approaches to Instruction (Performance and Mastery) was about two points for each.

While in isolation the differences might not seem statistically significant, but these differences could have compounding effects within a school culture if performance structures are allowed to flourish. Administrators could assist novice teachers by developing strong mentoring programs. Pairing newer faculty members with more experienced faculty members might allow for mastery practices to be introduced sooner rather than discovered individually through an extensive process of elimination.

Summary

The present study offers some support to the fields of mindset and goal orientation theories by providing evidence of moderate associations between implicit ability beliefs concerning students, the perceived goal orientations of schools, and the approaches to instruction of educational personnel in independent school environments. Additionally, interactions concerning the years of experience of educators as well as their primary role in the school reveal that these factors might also have an effect on the goal orientations and/or mindsets about student ability of educational personnel.

Recommendations for Further Study

The present study had several limitations that would warrant further research on these topics. The convenience sample utilized was rather small and geographically limited. Engaging independent schools in other regions to increase the sample size and generalizability would be beneficial. Additionally, assessing participant familiarity with mindset theory and goal orientation theory might provide guidance regarding the significance of the results. Finally, soliciting the student perspective could provide more insight into the difference between perceptions of schools' goal structures as well as gauging the student impact of teacher experience.

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Appendix A

Informed Consent Form

Informed Consent Form

Please read this consent document carefully before you decide to participate in this study. This research has been approved by the University Institutional Review Board.

Purpose of the research study:
The purpose of this study is to examine the goal orientations of independent school personnel with regard to their practical implicit beliefs about students.

What you will be asked to do in the study:
You will be asked to complete a twenty-two item survey concerning your perceptions of the goal structure of the school as well as your personal approaches to instruction. Then you will be given a student scenario and asked to respond to four statements related to the hypothetical student.

Time required:
Approximately 30 minutes

Risks and Benefits:
We anticipate minimal risk to you by participating in this study. We do not anticipate that you will benefit directly by participating in this study.

Confidentiality:
Your identity will be kept confidential to the extent provided by law. Your information will be assigned a code number, and your name will only be recorded on this consent form. When the study is completed and the data have been analyzed, the list will be destroyed. Your name will not be used in any report.

Voluntary participation:
Your participation in this study is completely voluntary. There is no penalty for not participating.

Right to withdraw from the study:
You have the right to withdraw from the study at anytime without consequence.

Whom to contact if you have questions about the study:
Christy Tomisek, cltomisek@cn.edu, 423-503-3768

Agreement:
I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.
Participant: _____ Date: _____

Appendix B

Demographic Information Form

Demographic Information

Please do not write your name on this form. It will be used to provide an accurate description of

the sample, and it will not be used to identify any participants in order to maintain

confidentiality.

For the following items, please select the one response that is most descriptive of you.

Gender: ____ Female   ____ Male

Age: ____ 20-29   ____ 30-39   ____40-49   ____ 50-59   ____60-69   ____70+

Educational Attainment:

____ Bachelor   ____ Master

____ Specialist   ____ Doctoral

Do you have a degree in education: ____ Yes   ____ No

Years of experience in the educational field:

____ 0-4   ____ 5-9   ____ 10-14   ____ 15-19   ____ 20-24   ____ 25-29   ____ 30+

Appendix C

Prospective Student Scenarios

Prospective Student Scenarios

Michelle is described as enthusiastic and determined by her teacher. Her performance on classroom assessments is average; however, she performed very poorly on the entrance exam. It seems that Michelle has difficulty retaining main concepts and later applying them. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.

Michelle may be able to perform better in school: however, her real ability will not change.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Because Michelle has difficulties grasping the main concepts, it will be difficult for her to improve her ability.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Michelle will probably make progress in school, but her overall ability will not change much.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

If admitted to the school, Michelle will experience academic success.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Michael is described as enthusiastic and determined by his teacher. His performance on classroom assessments is average; however, he performed very poorly on the entrance exam. It seems that Michael has difficulty retaining main concepts and later applying them. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.

Michael may be able to perform better in school: however, his real ability will not change.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Because Michael has difficulties grasping the main concepts, it will be difficult for him to improve his ability.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Michael will probably make progress in school, but his overall ability will not change much.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

If admitted to the school, Michael will experience academic success.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Carly is described as having many friends and being kind to all. She is an enthusiastic participant in class according to her teacher. Though she performed in the low average range on the entrance exam, she has been unsuccessful on classroom assessments. According to her parents, Carly has been diagnosed with a learning disability. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.

Carly may be able to perform better in school: however, her real ability will not change.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Because Carly has difficulties grasping the main concepts, it will be difficult for her to improve her ability.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Carly will probably make progress in school, but her overall ability will not change much.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

If admitted to the school, Carly will experience academic success.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Charlie is described as having many friends and being kind to all. He is an enthusiastic participant in class according to his teacher. Though he performed in the low average range on the entrance exam, he has been unsuccessful on classroom assessments. According to his parents, Charlie has been diagnosed with a learning disability. Based on what you know about children's learning and development, answer the following questions. There are no right or wrong answers.

Charlie may be able to perform better in school: however, his real ability will not change.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Because Charlie has difficulties grasping the main concepts, it will be difficult for him to improve his ability.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Charlie will probably make progress in school, but his overall ability will not change much.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

If admitted to the school, Charlie will experience academic success.

1	2	3	4	5	6
Strongly disagree	Moderately disagree	Disagree	Agree	Moderately Agree	Strongly Agree

Appendix D

Educator Survey

Educator Survey

1. I give special privileges to the students who do the best work.

1	2	3	4	5
	STRONGLY DISAGREE	SOMEWHAT AGREE	STRONGLY AGREE	

2. In this school: the importance of trying hard is stressed to students.

1	2	3	4	5
	STRONGLY DISAGREE	SOMEWHAT AGREE	STRONGLY AGREE	

3. I make a special effort to recognize students' individual progress, even if they are below grade level.

1	2	3	4	5
	STRONGLY DISAGREE	SOMEWHAT AGREE	STRONGLY AGREE	

4. In this school: Students are told that making mistakes is OK as long as they are learning and improving.

1	2	3	4	5
	STRONGLY DISAGREE	SOMEWHAT AGREE	STRONGLY AGREE	

5. In this school: It's easy to tell which students get the highest grades and which students get the lowest grades.

1	2	3	4	5
	STRONGLY DISAGREE	SOMEWHAT AGREE	STRONGLY AGREE	

6. I display the work of the highest achieving students as an example.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

7. In this school: Students who get good grades are pointed out as an example to others.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

8. During class, I often provide several different activities so that students can choose among them.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

9. In this school: Students hear a lot about the importance of getting high test scores.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

10. I consider how much students have improved when I give them report card grades.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

11. In this school: A lot of the work students do is boring and repetitious.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

12. In this school: Grades and test scores are not talked about a lot.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

13. In this school: Students are frequently told that learning should be fun.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

14. I help students understand how their performance compares to others.

1   2   3   4   5
        STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

15. I encourage students to compete with each other.

1   2   3   4   5
        STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

16. In this school: The emphasis is on really understanding schoolwork, not just memorizing it.

1   2   3   4   5
        STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

17. I point out those students who do well as a model for the other students.

1   2   3   4   5
        STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

18. In this school: A real effort is made to recognize students for effort and improvement.

1   2   3   4   5
        STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

19. In this school: Students hear a lot about the importance of making the honor roll or being recognized at honor assemblies.

1   2   3   4   5
        STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

20. I give a wide range of assignments, matched to students' needs and skill level.

1   2   3   4   5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

21. In this school: A real effort is made to show students how the work they do in school is related to their lives outside of school.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE

22. In this school: Students are encouraged to compete with each other academically.

1	2	3	4	5

STRONGLY DISAGREE   SOMEWHAT AGREE   STRONGLY AGREE