Promoting Growth Mindset in Middle School Students: An Intervention using Read-Alouds
By

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**Abstract**

The benefits of having a growth mindset have been extensively studied. The idea of "growth mindset" has become an established concept within American schools. The most current task in this area is figuring out how to create interventions that will promote this important growth mindset amongst students. The purpose of this study was to examine whether reading books out loud to a group of students (ages 10 to 12) could promote growth mindset. Read-alouds focused on specific mindset-related character traits and used those as an intervention to promote or increase growth mindset. Results showed that the read-aloud intervention was not effective in increasing students' growth mindset or specific character strengths. In addition, findings did not support the proposed correlations between character strengths and growth mindset.


*Keywords:* growth mindset, character strengths, read aloud, intervention

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My time at the University of Kansas has been great, and I feel profoundly grateful to have been able to return to school full-time to obtain my Master's Degree in Educational Psychology and Research. My coursework has given me a deeper understanding as to how children learn and develop, in addition to how society's structures are set up to create predictable, inequitable outcomes amongst children trying to succeed within our educational system. My hope is that I will use this knowledge in a job that will work on leveling the playing field for all.

Much thanks and gratitude is extended to my advisor, Dr. Meagan Patterson. From the initial idea to the final draft of this thesis, her support and guidance has been unwavering. I feel extremely lucky to have had such a knowledgeable, understanding, and encouraging figure guiding me throughout this process.

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# Chapter I: Literature Review

## Purpose of the Study

This study had several purposes: 1) to examine whether read-aloud could be used as a medium to promote character strengths and growth mindset, 2) to examine whether character strengths (curiosity, love of learning, persistence, optimism) represent a potential vehicle for introducing growth mindset, and 3) to examine whether character strengths and growth mindset are correlated.

## Outline of Literature Review

The following literature review will cover the three key components of this study: 1) growth mindset, 2) character education, and 3) read-alouds. The first section explores the concept of growth mindset, as conceptualized by Dweck and Leggett (1988). It includes a general overview and will also review related empirical findings related to the concept. Second, the field of character education is reviewed, specifically focusing on character strengths and their usefulness within school settings. This section also addresses how the concepts of growth mindset and character strengths are related and could be linked for the purposes of intervention. Finally, the literature surrounding the usefulness of read-alouds is reviewed, with a specific focus on their use during the middle school years.

### *Review of Growth* Mindset Literature

Growth mindset forms the basis of this study. Research and intervention related to growth mindset have exploded within the education world in recent years (Dweck, 2015). However, the concept underlying growth mindset is not a new one. In fact, the creator of the IQ test, Alfred Binet "believed that education and practice could bring about fundamental changes in intelligence" (Dweck, 2006, p. 5). He wrote:

A few modern philosophers…assert that an individual's intelligence is a fixed quantity, a quantity which cannot be increased. We must protest and react against this brutal pessimism…With practice, training, and above all, method, we manage to increase our attention, our memory, our judgment, and literally to become more intelligent than we were before" (Binet, 1975; cited in Dweck, 2006, p. 5).

Carol Dweck fully embraced Binet's idea that intelligence can grow and has dedicated a sizeable portion of her scholarship to this malleable nature of intelligence. Dweck conceived two psychological concepts known as 'growth mindset' and 'fixed mindset.' According to Dweck (2010), growth mindset, also labeled as an incremental theory of intelligence, is the belief that one's intelligence can increase over time. In contrast, fixed mindset, also known as an entity theory of intelligence, is the belief that one's intelligence is an unchangeable, immutable trait acquired at birth (Dweck, 2010). The importance of these two concepts is highlighted as Dweck (2006) notes, *"the view you adopt for yourself* profoundly impacts the way you lead your life*" (p. 6, italics original).

Within the field of psychology, is important to point out that Dweck's theory is one of many theories about intelligence. Charles Spearman introduced the notion of a general intelligence factor, g, that underlies all intelligent behavior (Siegler, DeLoache, Eisenberg, & Saffran, 2014). In the 1980s and 1990s, Howard Gardner introduced the concept of multiple intelligences, which posited that humans possess eight different types of intelligence (Siegler et al., 2014). Thirdly, the Triarchic Theory of Intelligence was put forth by Robert Sternberg, who argued that there are three different aspects to intelligence: analytic, practical, and creative intelligence (Siegler et al., 2014). These three examples are just a sampling, and there are indeed

others. However, for the purposes of this study, Dweck's conceptualization of intelligence is the one being considered and will be outlined in more detail below.

**The Growth Mindset Framework**

A growth mindset is part of an interconnected motivational framework first proposed by Dweck and Leggett (1988). The field of motivation research, including the study of mindset, is vast. According to Graham and Weiner, "motivation is the study of why people think and behave as they do" (Graham & Weiner, 1996, p. 63). Thus, motivation researchers like Dweck connect underlying psychological processes like mindset to other beliefs and behavioral patterns (Dweck & Leggett, 1988).

Dweck's motivation studies started in the late 1980s with the identification of two major response patterns in human behavior (Dweck & Leggett, 1988). The maladaptive 'helpless' pattern "is characterized by an avoidance of challenge and a deterioration of performance in the face of obstacles" (Dweck & Leggett, 1988, p. 256). In contrast, the adaptive 'mastery-oriented' pattern describes those who welcome challenge and persist in the face of challenge. The key finding was that children's 'helpless' or 'mastery-oriented' pattern of behavior was not linked to ability. That is, it was not only the low-ability students who exhibited helpless patterns of behavior; in fact, some of the brightest, most skilled participants showed this same maladaptive behavior. Despite this important finding, there was still missing information; this research finding did not explain why participants of equal ability responded so differently to challenging situations (Dweck & Leggett, 1988).

Within achievement settings, goals provide a filter for all incoming information to be processed and interpreted (Graham & Weiner, 1996). Therefore, the research in this area naturally progressed to the study of 'goals,' hoping to uncover why learners exhibited such

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different behavior patterns within challenging situations. Through their research, Dweck and her fellow researchers discovered that goal orientation mattered, and they defined two types of goals that a learner may have: a *performance goal* or a *learning goal* (Dweck, 1992; Dweck & Leggett, 1988; Grant & Dweck, 2003). Goals rooted in one's desire to be viewed as competent by others are called performance goals. In contrast, goals pursued for the sake of information and knowledge or skills are identified as learning goals. Dweck and her colleagues correctly hypothesized that each type of goal is prone to a different response pattern (Dweck & Leggett, 1988). Worrying about others' perceptions and pursuing a performance goal will likely promote a helpless, maladaptive behavior pattern, whereas pursuing learning goals bring about a mastery-oriented pattern of response (Dweck, 1992; Dweck & Leggett, 1988; Grant & Dweck, 2003). Thus, the data illuminated an important point: one's orientation towards goals impacts one's responses in academic situations.

Still missing, though, was a clear explanation for why learners in the same situation pursue such different goals (Dweck & Leggett, 1988). What would cause one learner to form performance goals and another learner to form learning goals? This unanswered question led researchers, including Dweck, to consider the role of *implicit theories.* Implicit theories refer to one's views about oneself, including a person's views about the nature of intelligence (Dweck & Leggett, 1988). Thus, the area of mindset research emerged as researchers began studying how someone's views of intelligence impacted their goal orientation and behavior pattern.

Figure 1

Theories, goals, and behavior patterns in achievement situations from Dweck & Leggett (1988)

**Theories, Goals and Behavior Patterns in Achievement Situations**

| Theory of intelligence | Goal orientation | Perceived present ability | Behavior pattern |
|---|---|---|---|
| Entity (Intelligence is fixed) | Performance (Goal is to gain positive judgments/ avoid negative judgments of competence) | High | Mastery oriented (Seek challenge; high persistence) |
| | | Low | Helpless (Avoid challenge; low persistence) |
| Incremental (Intelligence is malleable) | Learning (Goal is to increase competence) | High or low | Mastery oriented (Seek challenge that fosters learning; high persistence) |

From "A Social-Cognitive Appraoch to Motivation and Personality," by C. Dweck and E. Leggett, 1988, *Psychological Review,* p. 259. Copyright 1988 by the American Psychological Association.

Thus, within this network of variables, mindset is a key starting point from which distinct patterns emerge. That is, how one thinks about intelligence influences the types of goals one makes and one's subsequent behavior pattern (see Figure 1). In sum, a growth mindset leads one to form goals rooted in curiosity and learning (i.e., mastery goals). These goals are then reflected through challenge-seeking and persistent behaviors (Dweck & Leggett, 1988). In sharp contrast, a fixed mindset leads one to pursue goals rooted in seeking others' approval (i.e., performance goals), resulting in low persistence and helpless behaviors (Dweck & Leggett, 1988). Overall, Dweck and Leggett's (1988) motivation framework presented a clear picture of how growth mindset can benefit a person's goals, how a person perceives their own ability, and a person's behavior patterns.

**Mindset & outcomes.** In the late 1980s, Dweck and Leggett established their foundational framework about motivation and all of its related variables, which appears in the table above. To show the power of mindset, the next step involved testing to see whether actual experimental results confirmed or repudiated the framework. That is, if one adopts a growth

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mindset (i.e., an incremental theory of intelligence), effects of that mindset on goal orientation and behavior patterns should appear. In this field of study, methods have varied; some studies simply measured mindset beliefs while other studies used interventions to promote a specific mindset.

*Mindset and goal orientation.* As Dweck and Leggett theorized, one's mindset affects the types of goals one pursues.  Over time, research has supported the link between an growth mindset and learning goals (Blackwell, Trzesniewski, & Dweck, 2007; Dweck & Leggett, 1988; Dweck & Mueller, 1998; Kamins & Dweck, 1999).  In studies, participants who possess a growth mindset aligned themselves with learning goals, wherein the ultimate goal is the acquisition of knowledge. On the other hand, those with fixed mindsets pursued performance goals, which are ultimately focused on positive evaluation. The association between fixed mindsets with performance goals and growth mindsets with learning goals has been found for kindergartners (Kamins & Dweck, 1999), seventh graders (Blackwell et al., 2007), and college students (Aronson, Fried, & Good, 2002).

*Mindset and behavior patterns.* The full impact of mindset and goal orientation becomes readily apparent when these beliefs translate into a behavior pattern, which can either be an adaptive (mastery-oriented) pattern or a maladaptive (helpless) pattern (Dweck & Leggett, 1988). A mastery-oriented behavior pattern includes persisting and seeking out challenge, whereas a helpless behavior pattern includes preferring easy task, giving up when faced with difficulty, and avoiding challenge (Dweck & Leggett, 1988).

*Persistence.* Those with performance goals believe there is an inverse relationship between effort and ability (i.e., high effort implies low ability; low effort implies high ability; Dweck & Leggett, 1988; Mueller & Dweck, 1998).  In contrast, those with learning goals believe

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that effort and ability are positively related (i.e., if I work hard, my ability will improve) and will likely persist at difficult tasks (Dweck & Leggett, 1988; Gunderson et al., 2013; Blackwell et al., 2007). In sum, persistence is facilitated in instances where individuals do not see failure as indicative of low ability, but as a "cue to escalate effort" (Dweck & Leggett, 1988, p. 262).

Within Dweck and Leggett's (1988) motivational framework, research indicates that perception of one's own ability is also a key factor linking mindset, goal orientation, and persistence. According to Dweck and Leggett, the ideal task of a performance goal is "one that maximiz[es] positive judgments and pride in ability, while minimizing negative judgments, anxiety, and shame" (Dweck & Leggett, 1988). Therefore, for those with fixed mindsets whose perceived ability is low, the chance for aversive experiences (i.e., shame, negative judgment, looking incompetent) is likely, so these individuals usually avoid challenge and do not exhibit persistence (Dweck & Leggett, 1988). An important qualification in their framework is that high confidence can benefit those with fixed mindsets (Dweck & Leggett, 1988). Because they are not at risk of failing, they are still able to seek challenge until it interferes with their ability to be judged favorably (Dweck & Leggett, 1988).

On the other hand, those with growth mindsets are able to persist, no matter whether their perceived ability is low or high (Dweck & Leggett, 1988). Because the ideal task is to "maximize[e] the growth of ability and the pride and pleasure of mastery," failure does not pose such a threat to these individuals' behaviors (Dweck & Leggett, 1988, p. 261). Thus, instead of seeing failure as a signal of low ability, individuals with growth mindsets view failure "as a cue to escalate effort" (Dweck & Leggett, 1988, p. 262). This aligns with the finding that adolescents with growth mindsets achieved more in a challenging subject like math (Blackwell et al., 2007) and continued to challenge themselves by enrolling in more challenging Math courses

over the span of their junior high years (Romero, Master, Paunesku, Dweck, & Gross, 2014).

Overall, the research seems to suggest that growth mindset makes a bigger impact when

individuals are facing difficult or challenging situations ( Blackwell et al., 2007; Dweck &

Leggett, 1988; Romero et al., 2014).

*Strategy Production.* Those with growth mindsets wholly devote their attention and

strategies to the task at hand (Dweck & Leggett, 1988). On the other hand, for those with fixed

mindsets, worry over possible failure may divide their attention and result in less effective use of

learning or problem-solving strategies (Dweck & Leggett, 1988).  This behavior pattern was

evident in kindergartners with growth mindsets, who showed greater persistence in coming up

with constructive solutions to proposed setbacks (Kamins & Dweck, 1999).  This behavior

pattern was also evident among fifth graders (Dweck & Mueller, 1988).  After experiencing

success on a task, 76% of students aligned with fixed mindset sought out performance-related

information (e.g., their overall score) rather than strategy-related information (e.g., information

about how to improve performance) (Mueller & Dweck, 1998). In contrast, only 24% of students

associated with growth mindset sought performance-related information (Mueller & Dweck,

1998).  Ironically, the students most worried about performance level and concerned with

appearing adequate "were most likely to handicap themselves by sacrificing an opportunity to

gain beneficial strategy information" that could help them on future tasks (Mueller & Dweck,

1998, p. 44).  As expected, 7th grade students associated with growth mindset were able to

compile a list of positive strategies (i.e., "I would work harder in this class"), which was found to

positively correlate with a student's incremental theory of intelligence (Blackwell et al., 2007).

*Negative Affect.* Individuals with fixed mindsets and performance goals are more likely to

exhibit negative affect (i.e. anxiety, defiance, boredom) because of worry over judgment and

failure (Dweck & Leggett, 1988). In contrast, positive affect is more likely among those with growth mindsets who see value in their expenditure of effort for learning's sake (Dweck & Leggett, 1988). Aronson et al. (2002) observed this difference in affect. Black college students with growth mindsets reported higher degrees of enjoyment in the educational process than those with fixed mindsets.

Across these studies, adaptive behavior patterns (i.e. high persistence and challenge-seeking) were found in those with incremental frameworks/growth mindsets. In contrast, research showed that those with fixed mindsets exhibited maladaptive behavior patterns.

***Mindset and academic achievement outcomes.*** Across empirical studies, researchers have observed a connection between mindset and academic achievement. Mindset has been tied to academic outcomes including academic performance (e.g., grades, test scores) and course choice.

*Academic performance.* Several empirical studies have confirmed the benefits that growth mindset confers upon students' academic performance throughout a students' academic career. After experiencing failure, fifth-grade students with growth mindset outscored students with fixed mindsets on a particular academic task (Mueller & Dweck, 1998). In a recent longitudinal study of a suburban middle school students, researchers were able to show that students' theory of intelligence also predicted their math grades throughout the entirety of middle school (Romero, Master, Paunesku, Dweck, & Gross, 2014). Similarly, Blackwell et al.'s (2007) longitudinal study of seventh graders established that an intelligence theory intervention was a significant predictor of achievement within math classes, and continued to be an accurate predictor throughout the two years of junior high school. Beyond middle school, Aronson et al. (2002) found that college students with growth mindsets had higher grades compared to other

students who did not hold the same theory of intelligence. Thus, these interventions' results suggest that the malleability-of-intelligence message given to these students affected these academic gains (Aronson et al., 2002; Blackwell et al., 2007), but researchers were not able to statistically pinpoint malleability beliefs as the reason for these increases (Aronson et al., 2002). Nonetheless, the pattern is still noteworthy.

*Course choice.* A malleable theory of intelligence was also found to affect students' academic choices. Over the course of middle school (grades 6-8), researchers surveyed students' theories of intelligence four times. A malleable theory of intelligence predicted middle schoolers' enrollment into more difficult math courses throughout middle school (Romero, Master, Paunesku, Dweck, & Gross, 2014). Researchers thought that these choices might be especially important, for junior high math choices usually positively impact math course choices in high school and may even affect college and career choices, pointing to longer term effects of mindset on a student's life trajectory (Romero et al., 2014).

***Growth mindset interventions***. Armed with empirical evidence supporting the benefits associated with growth mindset, researchers began to ponder an important, related research question: can students be taught to have a growth mindset? Thus, a burgeoning area of research involves mindset intervention. Such studies have examined whether possessing a growth mindset is generally beneficial to varying age groups, including middle school students (Blackwell et al., 2007), high school students (Paunesku, et al., 2015; Stern, Henning, & Schmidt, 2015), and college students (Aronson et al., 2002). In addition, other mindset studies have focused on specific populations and/or contexts wherein fixed mindsets are particularly prevalent. These include populations who are prone to helpless behavior, which includes gifted students (Esparza, Shumow, & Schmidt, 2014) and at-risk adolescents (Saunders, 2013).

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Another grouping includes those who are often stereotyped, including females, minorities, and low-income students (Aronson et al., 2002; Good, Aronson, & Inzlicht, 2003). The strategies involved in mindset interventions have utilized differing methods, such as letter/pen-pal correspondence with younger students (Aronson et al., 2002; Stern et al., 2015), term paper writing (Stern et al., 2015), computer programs (Donohoe, Topping, & Hannah, 2012), and classroom workshops (Blackwell et al., 2007). Such studies have shown the benefits of such interventions for students (Aronson et al., 2002; Blackwell et al., 2007).

One of these studies by Blackwell, Trzeniewski and Dweck (2007) sought to explore whether a mindset intervention led to heightened achievement outcomes. A group of seventh grade students was exposed to an eight-week growth mindset intervention consisting of eight 25-minute sessions. The key message included in the intervention was: "learning changes the brain by forming new connections and that students are in charge of this process" (Blackwell et al., 2007). Groups assigned to a control condition received lessons that included the concept of memory and other high-interest academic issues not including incremental theory. Results of the study showed that those who received incremental theory training aligned themselves more strongly with a growth mindset after the intervention sessions in comparison to before the intervention (Blackwell et al., 2007). The academic performance of those who participated in mindset intervention also benefitted considerably. The downward trajectory of grades that is typical in junior high was halted for those students who received mindset intervention (Blackwell et al., 2007). Even stronger evidence lies in the fact that mindset intervention completely reversed the downward trend for those who held an entity framework before the intervention took place (Blackwell et al., 2007).

Another intervention study by Aronson, Fried, and Good (2002) studied growth mindset within a sample of college students. The researchers wanted to see if shaping an incremental theory of intelligence could help Black students to increase their academic achievement and engagement (Aronson et al., 2002). Over the course of three sessions, college students were told they would be participating in a long-term mentoring program with impoverished middle-school students who were struggling in school via a pen-pal program. However, the true purpose of the letter writing was to convince the college students themselves of the malleable nature of intelligence. The college students were encouraged to incorporate themes about intelligence malleability from current research. To provide scientific evidence to the college students, they also watched a brief videos clip about current brain research. The control group wrote letters emphasizing the multi-faceted nature of intelligence, not its malleability. After the intervention concluded, those in the experimental group reflected a greater belief in the malleability of intelligence, both in the short-term and long-term (Aronson et al., 2002). In addition, this mindset intervention aligned with increased grades for both Black and White students.

Both of these interventions were successful in promoting growth mindset amongst students and show the benefit of supplementary activities like pen-pal programs and extra classroom programs. However, these activities may not fit into a school's existing curriculum or schedule. That is, administration and teachers would have to make time for such an intervention. However, could growth mindset be taught through a classroom practice that is already built into school day? The study at hand explored this possibility.

## Review of Character Strengths Literature

Beyond presenting neurological information about the brain, another avenue for growth mindset intervention may be possible by focusing on character strengths, a concept from positive

psychology. In the next section, the history of the positive psychology movement will be briefly reviewed. Then, the concept of character strengths will be defined with special attention paid to how they have been studied and successfully utilized within the context of education. This section will conclude by explaining the proposed connections between growth mindset and character strengths, and how those strengths might be used to teach growth mindset.

**A New Realm of Psychology**

In 2000, psychologists Martin Seligman and Mihaly Csikszentmihalyi published an article in *American Psychologist* stating that there was a large gap in the field of psychology. That is, because of the overriding focus on the disease model of human functioning, psychologists had focused predominantly on repairing damage and teaching people how to endure adversarial conditions (Seligman & Csikszentmihalyi, Positive Psychology: an introduction, 2000). As a result, psychologists unfortunately knew very little about what "makes life worth living" (Seligman & Csikszentmihalyi, 2000, p. 5). To fill this gap, Seligman and Csikszentmihalyi (2000) proposed a new area of psychology, to be called positive psychology, and wrote:

> Whatever the personal origins of our conviction that the time has arrived for a positive psychology, our message is to remind our field that psychology is not just the study of pathology, weakness, and damage; it is also the study of strength and virtue. Treatment is not just fixing what is broken; it is nurturing what is best. (Seligman & Csikszentmihalyi, 2000, p. 7)

According to Seligman and Csikszentmihalyi (2000), positive psychology concerns the study of "valued subjective experiences" like well-being, contentment, satisfaction, hope, optimism, flow, self-determination, and happiness (p. 5). On the individual level, positive psychology focuses on

positive individual traits or strengths (Seligman & Csikszentmihalyi, 2000). Overall, Seligman and Csikszentmihalyi (2000) hoped that positive psychology would provide psychologists the opportunity to "learn how to build the qualities that help individuals and communities, not just to endure and survive, but also to flourish" (p. 13).

Over the past 20 years, positive psychology research has expanded. From 1999-2013, there were 1336 articles published, highlighting the increased level of interest in positive psychology and its related principles (Donaldson, Dollwet, & Rao, 2015). The field of positive psychology has expanded to include, but is not limited to, various samples (i.e. adult, college students, children and adolescents), predictors (i.e. gratitude, mindfulness, character strengths, coaching, hope) performance outcome measures (i.e. work performance, test scores, attendance), and intervention types (i.e. mindfulness intervention, character trait intervention, gratitude intervention) (Donaldson, Dollwet, & Rao, 2015).

**Positive psychology in adolescence**. Positive psychology has been incorporated into a number of adolescent research studies for two reasons: a) positive psychology aligns with the changing perception of adolescence and b) positive psychology has the potential to promote positive mindsets and habits among adolescents during this important life period (Huebner & Hills, 2011; Oppenheimer, Fialkov, Ecker, & Portnoy, 2014; Seligman, Ernst, Gillham, Reivich, & Linkins, 2009; Shoshani & Slone, 2013).

One reason that positive psychology has become a popular field within adolescent research has to do with the changing perceptions and views surrounding adolescence.  For a long time, Hall's deficit-based "storm and stress" model promoted a conception of adolescents as challenging and problematic (Shoshani & Slone, 2013). However, major scientific work in the 1990s and early 2000s, including a wealth of neurological research on adolescent brain

development, changed this perception and "enabled youth to be viewed as resources to be developed, and not as problems to be managed" (Shoshani & Slone, 2013, p. 1164). Thus, instead of devoting more research to explore what is wrong with adolescents, positive psychology has enabled researchers to explore development of positive adolescent functioning.

**Positive psychology in education.** Dr. Martin Luther King Jr. said, "Intelligence plus character—that is the goal of a true education" (King, 1947). Thus, integrating aspects of positive psychology (e.g., character strengths) into schools was not entirely a new idea, but gained momentum upon the advent of the positive psychology movement.  In addition, many educators and parents view character development as an important part of the educational experience (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009).  According to Seligman et al. (2009), parents want their children to be happy, content, balanced, kind, and satisfied. Parents also indicated that school, in their eyes, provides none of that. Seligman et al. (2009) argue that students' plentiful and meaningful interactions with peers, teachers, and coaches at school makes it a fitting environment to conduct character strength studies, which utilize interventions infused with positive psychology principles (Seligman et al., 2009).

**The Study of Character Strengths**

Within the field of positive psychology, the central role of character has been noted, for it is good character that enables other positive experiences to take place (Park & Peterson, 2009). Although the formal study of character is a fairly recent endeavor, the concept of "good character" has always existed within public discourse, dating all the way back to the times of Aristotle and Confucius (Park & Peterson, 2009).  After combing through documents spanning various cultures, contexts, religions, and historical periods, Christopher Peterson and Martin Seligman (2004) published *Character Strengths and Virtues*, a seminal text in positive

psychology that outlines a conceptualization and classification of character that is still widely

used today (see Figure 2).

Figure 2

Model of character conceptualized by Peterson and Seligman (2004)
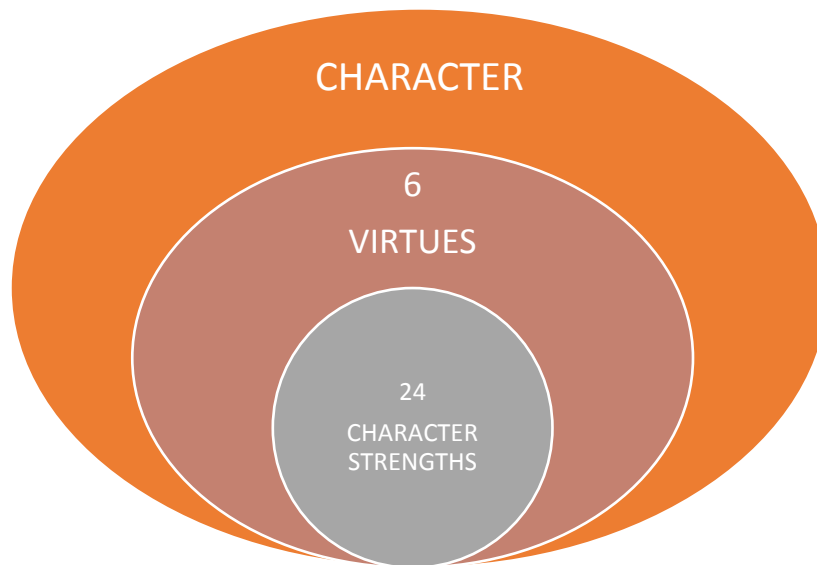


Adapted from *Character Strengths and Virtues* by C. Peterson and M. Seligman, 2004, New York: Oxford
University Press. Copyright 2004 by Oxford University Press.

Overall, character is a multidimensional construct that encompasses "the entire set of

positive traits that have emerged across cultures and throughout history as important for good

life" (Park & Peterson, 2009, p. 68). In addition, each person's character will vary from the next

and no one person will display every desirable trait (Park & Peterson, 2006).

An important distinction made by Peterson and Seligman relates to the difference

between personality and character. Though they relate to one another, personality traits and

character strengths are not synonymous. Rather, character strengths are a subset of personality

traits, and the moral value placed upon character strengths is their distinguishing feature (Park &

Peterson, 2009). For example, introversion and extraversion are personality traits, but not

character strengths, because they hold no moral value (Park & Peterson, 2009).  On the other hand, kindness and teamwork qualified as character strengths because of their moral value (Park & Peterson, 2009).

According to Peterson and Seligman's characterization, character is comprised of two elements: virtues and character strengths (see Figure 1). Peterson and Seligman identified six virtues: 1) wisdom and knowledge, 2) courage, 3) humanity, 4) justice, 5) temperance, and 6) transcendence.  However, virtues did not necessarily lend themselves well to measurement, so Peterson and Seligman further divided the six virtues into twenty-four character strengths (see Table 2).  These character strengths were defined as "the psychological processes or mechanisms that define the virtues" (Park & Peterson, 2006 , p. 893). They are distinct from one another, measureable, and observable via thoughts, feelings, and/or actions of an individual (Peterson & Seligman, 2004). Some examples of these character traits included love of learning, curiosity, persistence, love, teamwork, prudence, and self-regulation.

This theoretical work by Peterson and Seligman laid the foundation for the character strength research that would follow in the years to come. With this information, researchers were able to begin studying character strengths as a formal, systematic undertaking.

**Research on Character Strengths in Adolescents**

The research surrounding adolescent character strength education revolves predominantly around two overarching questions. The first is: do character strengths matter? This question concerns whether possessing a character trait leads to a desired outcome. For example, will a student possessing a high level of perseverance attain a better GPA than a student with less perseverance?  The second is: can character strengths be taught? The integration of education

and character strengths has resulted in a wave of studies examining whether character strengths can be taught as an intervention.

**Do character strengths matter?** Character strengths do, in fact, matter in the lives of adolescents. In a number of studies, character strengths were found to predict both academic and non-academic outcomes (Duckworth & Seligman, 2005; Gillham, et al., 2011; Oppenheimer, Fialkov, Ecker, & Portnoy, 2014; Seider, Gilbert, Novick, & Gomez, 2013; Shoshani & Slone, 2013).

First, character strengths were found to have a positive impact on students' academic outcomes. In Shoshani and Slone (2013) researchers found that intellectual character traits (e.g. love of learning, curiosity, creativity) were accurate predictors of GPA as students transitioned from seventh to eighth grade.  Another study found that perseverance and integrity were positively associated with GPA for a group of middle schoolers in sixth through eighth grade (Seider et al., 2013).   Duckworth and Seligman (2005) also showed that the trait of self-discipline was more important than IQ in predicting the academic performance of adolescents in eighth grade. In addition, students with high levels of self-discipline were also more likely to improve their grades over the course of year, whereas IQ was not able to predict this important academic outcome. (Duckworth & Seligman, 2005). Overall, relevant character strengths seem to be beneficial to one's academic performance.

Character strengths were also found to predict a number of non-academic outcomes like social adjustment, cognitive adjustment, and well-being (Park & Peterson, 2006; Shoshani & Slone, 2013).  Interpersonal strengths (i.e. kindness, love and gratitude) were found to be significant predictors of social adjustment to middle school (Shoshani & Slone, 2013). Thus, these traits could be key to helping adolescents achieve two important social goals of middle

school: to form meaningful relationships with friends and to feel a sense of belonging in a peer group (Shoshani & Slone, 2013). Intellectual character traits like curiosity and love of learning also predicted adolescents' cognitive adjustment to school (Shoshani & Slone, 2013). Most noteworthy, temperance character strengths (i.e. self-regulation, prudence, forgiveness) were found to be strong predictors for adolescents' social, behavioral, and emotional adjustment to school and played a very important role in predicting adolescents' subjective well-being (Shoshani & Slone, 2013). On a similar note, Park and Peterson (2006) found that higher life satisfaction at the conclusion of the school year was predicted by the character traits of love, hope, and zest for fifth and eighth graders.

**Can character strengths be taught?** The move to teach character traits within schools assumes that character strengths can be taught. Another area of research explores the implementation of character strength interventions within schools.

One longstanding intervention that includes character strengths is The Penn Resiliency Program (PRP). It includes a curriculum that "promotes optimism by teaching students to think more realistically and flexibly about the problems they encounter," (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009, p. 297). Though the program was not exclusively focused on character strengths, the program's explicit and direct promotion of the trait of optimism warrants its inclusion in this review. Over the past 20 years, the PRP program has been administered to over 2,000 children and adolescents between the ages of 8 and 15. In a meta-analysis of those studies, Seligman et al. found that PRP reduced and prevented symptoms of depression (Seligman, Ernst, Gillham, Reivich, & Linkins, 2009). In addition, the program reduced hopelessness and increased the character strength of optimism within its participants (Seligman et al., 2009).

Another intervention program is called the Positive Psychology Programme (Seligman et al., 2009).  The focus of the program was to help students identify their strongest character strengths and to promote the use of those strengths in students' everyday lives.  Lessons involved talking about character strengths, participating in an in-class activity, and completing a homework activity that promoted the use of skills and concepts in their everyday life. After 20-25 intervention sessions lasting 80 minutes each, students' self-reported enjoyment and engagement in school increased (Seligman et al., 2009).  Those self-reports were corroborated by the students' teachers, who reported improved strengths related to school and learning (i.e. curiosity, love of learning, creativity). The program also benefitted the social skills of students, according to reports from teachers and mothers (Seligman et al., 2009).

In Oppenheimer, Fialkov, Ecker and Portnoy (2014), a 5-day character strength intervention was implemented for eighth graders in an urban middle school. Researchers gauged students' sense of well-being before the intervention, immediately following the intervention and three months afterward. For one school week, students participated in one-hour sessions focused on character strengths.  Sample activities included identifying their signature strengths through the administration of the VIA-Youth assessment, receiving information on hope and perseverance, and identifying strengths in themselves and others. Researchers found that the character strengths intervention positively affected the students' well-being at the conclusion of the intervention, but did not extend to the 3-month mark (Oppenheimer et al., 2014). Overall, this study seems to replicate the findings of Seligman et al.'s (2009) finding that the introduction of character strengths within a school environment can be beneficial to students' well-being. This study is particularly important because the population used in similar to the target population of the current study.

Seider, Novick, and Gomez (2013) conducted a study at three "no excuses" charter middle schools (6-8 grade), which hold similar student populations and school missions to the KIPP charter school where the current study was conducted. This study examined whether focusing on a certain type of character strength (i.e., performance or moral) would alter the effectiveness of the character education program over the course of one academic year (Seider et al., 2013). Two of the three schools, Collegiate Bound and Civitas Prep, focused their advisory sessions on performance character strengths (i.e. persistence, self-discipline, grit), "qualities that allow individuals to regulate their thoughts and actions in ways that support achievement" (Seider et al., p. 3). Performance character strengths are also somewhat dependent upon context and "derivative of the ends toward which they are applied" (Berkowitz & Puka, 2009, p. 108). In these two schools, students participated in a weekly advisory period that focused on persevering in the face of challenge. Sample activities included watching inspirational videos and receiving guidance about how to study for exams. Overall, this period was viewed as "an opportunity for students to work together on the qualities necessary to maximize their academic performance" (Seider et al., 2013, p. 795). This stands in contrast to Classical Academy's focus on moral character strengths (i.e. empathy, integrity), which are "intrinsically good independent of context" and involve "striving for ethical behavior in one's relationships with other individuals and communities" (Seider et al., 2013, p. 3-4). Students at this school participated in weekly philosophy lessons that introduced students to various moral character strengths. Sample activities included examining the writings of historical figures and sharing examples from their own lives. Overall, Classical Academy's curriculum sought to "to help students understand their role in society and to share their own moral principles" (Seider et al., 2013, p. 796). These distinct approaches to character strength education did have differing results; both had benefits,

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but in distinct areas. The schools that emphasized performance character traits saw an increase in perseverance and community connectedness amongst their students (Seider et al., 2013). On the other hand, the school that focused on ethical philosophy and moral character strengths noticed a deeper commitment to academic integrity amongst its students (Seider et al., 2013). Overall, this study shows the effectiveness of character strength education while, at the same time, highlights a school's ability to prioritize and cultivate specific character strengths (Seider et al.,2013).

In summary, these studies point to the overall potential of character strength interventions. Character strength interventions that lasted days (Oppenheimer et al., 2014), months (Seligman et al., 2009), and over the course of a whole school year (Seider et al., 2013) have all resulted in positive effects for adolescents. Even more promising, some of these character strength interventions have been effective for minority, urban students in charter schools, the target population for the current study (Seider et al., 2013; Oppenheimer et al., 2014).

Though these studies possess important similarities, the proposed study will also depart from these studies in key ways. The character strengths in the proposed study will be used as a method to instill a mindset. In other words, the character strengths are not the goal, in and of themselves, but are being used to instill a psychological mindset. The character strength intervention in this study will also be delivered using an existing instructional activity (i.e. the read aloud). Thus, this intervention may point to a specific way that  the concept of growth mindset could be incorporated into existing classroom practices, rather than being added on top of the "already-full" school days that most schools have in place.

**The Connection Between Growth Mindset and Character Strengths**

Overall, the concepts of growth mindset and character strengths align and have quite a bit of overlap.  That is, specific character strengths (e.g., love of learning, perseverance) seem to be ingrained within the concept of growth mindset.  Thus, teaching students about certain character strengths might be another viable way to develop a growth mindset.  The parallels between the two concepts are outlined in Figure 3. The left-hand column highlights a key concept within Dweck and Leggett's (1988) growth mindset model. The center column notes the specific character strengths from Park and Peterson's (2006) VIA-Youth Inventory that align with the concept of growth mindset. Since the intervention will be happening at a KIPP charter school, the right-hand column outlines KIPP's definition for the character strengths, which will be used throughout the intervention.

Figure 1

Proposed connections between growth mindset and character strengths

| Growth Mindset Dweck & Leggett (1988) | VIA-Youth Character Strength Park and Peterson (2006) | KIPP Character Trait |
|---|---|---|
| Having a malleable theory of intelligence (i.e. growth mindset) is specifically linked to the type of goals one makes. Those with growth mindsets pursue **learning goals** and "tend to view achievement situations as opportunities to increase their competence and may pursue, in these situations, the goal of acquiring new skills or extending their mastery" (Dweck and Leggett, 1988, p. 259). Thus, curiosity and love of learning nicely align with the concept of learning goals. | **Love of Learning: "**Mastering new skills, topics, and bodies of knowledge" (Park & Peterson, 2006 ) <br><br> **Curiosity: "**Taking an interest in all ongoing experience" (Park & Peterson, 2006 ) | **Curiosity**: "the search for information for its own sake. Active open-mindedness means exploring a wide range of relevant information when trying to draw a conclusion, including information that challenges our own initial assumptions." (KIPP Foundation, 2016). |
| Possessing a growth mindset is also associated with a **mastery-oriented** approach to learning that is characterized the seeking of challenge and high persistence in the face of that challenge (Dweck & Leggett, 1988). Therefore, persistence seems to be a key factor in growth mindset. | **Persistence:** "Finishing what one starts" (Park & Peterson, 2006 ). | "**Grit**: "perseverance and passion for long-term goals. Finished whatever s/he began" (KIPP Foundation, 2016). |
| A **mastery-oriented** approach involves persistence in the face of challenge. (Dweck & Leggett, 1988). However, in order to keep persisting, one also needs to possess a sense of hope for the future and believe that their effort will help them achieve their goals. | **Hope.** "Expecting the best and working to achieve it" (Park & Peterson, 2006 ) | **Optimism**: "the expectation that the future holds positive possibilities and the confidence that, with effort, these possibilities become likelihoods" (KIPP Foundation, 2016). |

**Critiques of Strengths-Based Approaches**

Though studies utilizing strengths-based character development have increased in recent years, this approach to character education still has its critics. For example, empirical scholarship has focused almost exclusively on the possession of these strengths, rather than how these strengths are used in practice. One of the most convincing criticisms relates to whether possessing character strengths leads to using those strengths and whether using strengths can be linked to beneficial outcomes (Wood, Linley, Maltbey, Kashdan, & Hurling, 2011). In addition, there are concerns about the predictive validity of such approaches f (Duckworth & Yeager, 2015). According to these critics, certain strengths may apply to success in a very specific context, but they are not consistently implemented or demonstrated across all possible life situations (Duckworth & Yeager, 2015).

Within the realm of character, some character strengths have received more attention than others. Grit is one character strength that has received much positive and negative attention—and highlights why the promotion of character strengths is sometimes controversial. In a recent meta-analysis representing 66,807 individuals, researchers found that grit is not entirely distinct from conscientiousness, and that, in fact, the two are highly correlated, which calls the construct validity of grit into question (Créde, Tynan, & Harms, 2016). In addition, another of their key findings found that the grit-performance connection is not as strong as many studies have suggested (Créde et al., 2016). Another large criticism of the 'grit phenomenon' is grounded more in the social and political realms. Such criticism claims that Duckworth, the preeminent grit scholar, ignored the myriad of factors involved in someone's life success:

Family background, opportunity, culture, landing at the right place at the right time, the

over-all state of the economy—all these elements, operating at once, allow some talented

people to do much better than other talented people… Duckworth—indifferent to class,

race, history, society, culture—strips success of its human reality, and her single-minded

theory may explain very little. (Denby, 2016)

Furthermore, some see grit being used to romanticize poverty and promoting a culture of

inaction. Ris writes, "real harm can come from romanticizing poverty as a character-building

experience. If privileged classes see poor children as potential role models for their own

offspring, they risk losing sight of the enormous harms caused by a childhood without high

quality housing, health care, nutrition, and education. (Ris, 2015, p. 10). Thus, inaction follows:

If grit provides the pathway to success, and grit comes from persevering through

hardship, then the way to help poor people is to make sure their lives remain difficult.

Climbing over obstacles will make them stronger and more mobile.

 (Ris, 2015, p. 11)

Overall, these are valid criticisms of how an over-emphasis on grit and persistence can

produce negative results. However, there is also empirical research that illustrates how character

strengths support success and resilience (Aronson et al., 2002; Blackwell et al., 2007;

Duckworth, Peterson, Matthews & Kelly, 2007; Duckworth & Seligman, 2005; Seider et al.,

2013). Thus, character strengths like grit are important, but with that said, such character

strengths are neither the sole factor in determining a students' success, nor an excuse not to

provide appropriate supports and resources to students.

**Review of Read Aloud Literature**

Building on the notion that character strengths could act as an alternative method to developing a growth mindset, an effective intervention medium is also needed. The read-aloud could serve that purpose.

In the seminal 1985 report, *Becoming a Nation of Readers* called the practice of reading aloud "the single most important activity for building knowledge for [students'] eventual success in reading" (Anderson, Hiebert, Scott, & Wilkinson, 1985, p. 23). The National Education Association (2000) highlights shared reading—or reading aloud—as one of the ten proven principles for teaching reading and defines it as "as any rewarding reading situation in which a learner—or group of learners—sees the text, observes an expert (usually the teacher) reading it with fluency and expression, and is invited to read along" (Routman, 1991 as cited in Nation Education Association, 2000). This reading practice usually involves students gathering on a carpet area to listen to the teacher read a picture book or a portion of a chapter book. The teacher utilizes a variety of strategies to help students construct meaning and to understand the text, which may involve asking questions, modeling thought processes, thinking about unknown words, making predictions, writing, or discussing with classmates.

Throughout the years, growing research in this field has provided empirical support for the effectiveness of read-alouds, in terms of learning and reading achievement. Reading aloud and talking about books has been shown to have a beneficial effect on elementary students' vocabulary development (Elley, 1989; Feitelson, Goldstein, Iraqi, & Share, 1993). In Rosenburg et al.'s (1997) study, they found that systematic daily exposure to listening to stories improved Israeli first-grade students' decoding, reading comprehension, and picture storytelling. Besides elementary students, read-alouds have also proven useful to English language learners by

increasing vocabulary acquisition (Elley, 1989; Ulanoff & Pucci, 1999). As such, parents and teachers alike have come to regard reading aloud as a proven strategy to promote literacy development of young readers (Teale, 2003).

Beyond the academic benefits of reading aloud, this practice is also a powerful motivational tool for children (Mooney, 1994).  In fact, the read-aloud book is "a key factor in the development of the children's attitudes towards books and towards themselves as readers and writers" (Mooney, 1994, p. 90). By reading aloud, the teacher is in a position to "sell" reading as an important, worthwhile, enjoyable endeavor. Several studies have shown that read-alouds do, in fact, increase engagement and motivate this population of students. Academic growth is likely to follow from an increase in motivation (Guthrie & Wigfield, 2000).

**Read-Alouds at the Middle School Level**. For the most part, the majority of read aloud research has been conducted with elementary-aged student populations ( Beck & McKeown, 2001; Elley, 1989; Feitelson et al., 1993; Morrow & Smith, 1990;). That said, read-alouds are not reserved for younger students and certainly should not be ruled out as an instructional activity for older students (Albright & Ariail, 2005; Costello & Kolodziej, 2006).  Though the research pertaining to read-alouds in middle school settings is nowhere near as rich and developed as that conducted with younger students, that small amount of research is our starting point and will provide some rationale and insight into why read-alouds should be used in middle school settings to impact student motivation, achievement, and content knowledge in the classroom.

*Motivation.* Adolescence is a time when excitement for reading usually drops off. According to Guthrie and Wigfield (2000), "The largest decreases in intrinsic reading motivation seem to occur at two points: during the early to middle elementary school years, and then into middle or junior high school" (p. 409). However, read-alouds hold great potential in combatting

this negative effect. Several studies have shown that read-alouds do, in fact, increase engagement and motivate this population of students (Albright & Ariail, 2005; Ivey & Broaddus, 2001; ).  As such, academic growth is likely to follow from an increase in motivation (Guthrie & Wigfield, 2000).

   ***Academic achievement.***  Another potential benefit of read-alouds relates to students' academic performance and their ability to increase reading achievement at any level. One student hinted at this when saying, "I like [when teachers read aloud] because it's easier to understand" (Ivey, 2003, p. 812).  Whereas the elementary literature contains more evidence linking read-alouds to literacy development and academic outcomes, there is no clear evidence in any of the middle school literature to make a clear link between read-alouds and academic outcomes. Thus, a fairly large gap exists in the middle school read-aloud literature, leaving plenty of room for researchers to expand the focus of their research in the future. Despite this gap, the benefit of read-aloud to students' motivation speaks is reason enough to pursue research on middle school read-alouds.

   ***Content knowledge.***  In Albright (2002), a picture book was used to increase engagement in a content-area class. Instead of filling instructional time with workbooks, study guides, and videos, the teacher chose to read a picture book about the discovery and analysis of a frozen Incan mummy with her seventh-graders.  The teacher created strategic questions and designated a special time for the read-aloud during class time. The read-aloud was audio-recorded, transcribed, and analyzed. Analysis focused on how students took away information (i.e. efferent reading ability) as well as how they explored the work and themselves (i.e. aesthetic reading ability). Results showed that students who participated in the read-alouds achieved at the same level and acquired an equal amount of content knowledge as students who participated in regular

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classroom instruction. Linking to motivation, students in the read-alouds also showed continuous engagement throughout the sessions. Comments collected at the end of the study included:

> "I had a lot of fun listening to her read and I learned a lot of stuff. It was a fun way to learn. I got to say how I felt about the book, and I got to know how everyone else felt, too.  It's a fascinating experience" (Albright, 2002, p. 427).

Another study by Broaddus and Ivey (2001) brings light to the positive impact of read-alouds within middle school classrooms. To get a good sense of what motivates middle schoolers to read, sixth graders took part in surveys and individual interviews. The data clearly showed that read-alouds were a clear source of enjoyment and motivation in the reading, ranking as the second most-preferred reading activity in the classroom (Ivey & Broaddus, "Just plain reading": A survey of what makes students want to read in middle school classrooms, 2001). One student noted, "I want to read in this class when the teacher reads a little part of the book. If it is interesting, I want to find out about the rest of the book" (Ivey, 2003, p. 812). Another noted, "She makes us want to read it [the book]" (Ivey, 2003, p. 812). This quantitative and qualitative data illustrate the important motivational purpose that read-alouds can serve for students in the middle school classroom.

**What makes a good read-aloud?** Besides looking at the "product" or outcome of a read-aloud, the "process" of conducting a read-aloud is an equally important consideration. In fact, Teale (2003) notes that "the ways in which teachers read aloud vary; that variability, in turn, can influence the effect of the activity on the children listening to the book" (p. 122-23).

This worrisome variability was reflected in a survey given to 141 middle school teachers (grades 6-8) about read-alouds (Albright & Ariail, 2005).  Although most of the teachers, 85.8%, did read aloud to their students, teachers varied in a number of ways. First, their definitions of a

"read-aloud" were not aligned (Albright & Ariail, 2005). Choices of texts ranged from textbook excerpts to chapter books (most common pick) to short stories to assignment directions to picture books (one of least common picks) (Albright & Ariail, 2005). Secondly, the teachers also showed great variability in why they read to their students. The researchers optimistically noted that teachers' reasons, for the most part, were supported by reading research, which included "model good reading practices," "improve vocabulary," "ensure or increase understanding/ comprehension of text," and "reinforce content knowledge" (Albright & Ariail, 2005, p. 584). At the same time, researchers were a bit worried about the clear imbalance between the efferent purposes versus the aesthetic purposes for reading aloud (Albright & Ariail, 2005). That is, it seemed that teachers employed read-alouds much more frequently as a way to disseminate facts and as a managerial tool than as a way to tap into students' personal motivation and beliefs about the world around them (Albright & Ariail, 2005).

After looking at all of this evidence, it makes sense to think about what makes a read-aloud a good read-aloud. So, we will next examine some different perspectives on what makes a read-aloud an effective tool in the classroom, for as William Teale (2003) so aptly notes, "All read-alouds are not created equal" (p. 122). Creating a meaningful read-aloud experience for students is not happenstance. There are countless articles with varying guidelines and considerations to make when picking read-aloud texts for students. However, several themes appear across the literature:

1. Choose quality literature

2. Have a specific purpose for reading aloud.

3. Have a strategic discussion during the read-aloud.

These recurring themes are described in more detail below alongside brief descriptions of relevant literature.

  ***1. Choose quality literature.*** As a teacher decides to read-aloud, the choice of text holds much importance (Albright & Ariail, 2005; Hoffman, Roser, & Battle, 1993; Teale, 2003; Costello & Kolodziej, 2006). This simple consideration involves more than meets the eye. First, the quality of the text matters. When responding to a question about what "makes a book literature, especially a children's book," author Julius Lester characterized great children's books as those that "enable the reader to experience the possibilities of language" and provide a "vision of what it is to be human" (as cited in Teale, 2003, p. 126).

  Hoffman, Teale, and, and Yokota (2015) outline several key characteristics of quality literature that will support complex processing. Though their discussion centers on younger readers, the same guidelines can be applied to read-aloud texts for older students.  First, the thematic content of a book should be taken into consideration (Hoffman et al., 2015).  Because theme—or the central idea of a text—is communicated through multiple features of a book, "it is important in building young readers' capacity to understand narratives as more than sequences of events" (Hoffman et al., 2015, p. 12).  Second, quality literature for read-alouds involves "round characters—characters who are dynamic, changing, and malleable" (Hoffman et al., 2015, p. 12). Third, the interplay between text and illustrations comprise a key feature of quality read-aloud texts, wherein "the meaning from the text and the illustrations are interconnected so that the whole is greater than the sum of its parts" (Hoffman, Teale, & Yokota, 2015, pp. 12-13). Fourth, quality read-aloud texts strategically incorporate "rich and mature language—words and phrases that develop complex meaning and imagery for the reader" (Hoffman et al., 2015, p. 13). The final element of high-quality texts involves engaging, complex plots that maintain students'

interest and piques their curiosity (Hoffman et al., 2015). For older students (e.g. middle school students), this complexity may involve students grappling with unfamiliar events and experiences (Hoffman et al., 2015).

*2. Read aloud for a specific purpose.* Another consideration in picking out quality literature revolves around the type of text that one picks for the read-aloud (Albright, 2002; Albright & Ariail, 2005; Costello & Kolodziej, 2006; Teale, 2003). The read-aloud must serve a specific purpose, and the type of text must align with that purpose. For example, the teacher in Albright (2002) ensured that "the book reinforced topics and concepts the students were studying, was well organized, and provided accurate and up-to-date information" (Albright, 2002, pp. 420-21).

Figure 2

Example read aloud questions taken from Albright (2002)

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**Before-Reading Questions**
- What do you think this book might be about?
- What do you want to find out about (…)?
- Has anyone ever (…)? Tell us about it.

**During Reading Questions**
- Why do you think they (said/did) that?
- What do you think will happen next?
- Do you think that is important? Why?
- Why do you think that happened the way it did?

**After Reading Questions**
- What does the book remind you of in your own life?
- What did you learn from this book that surprised you or you didn't know before?
- What do you think might have happened (…)?

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*3. Strategically discuss while reading.* Many scholars also note the importance of discussion during a read-aloud experience (Albright, 2002; Albright & Ariail, 2005; Beck &

McKeown, 2001; Costello & Kolodziej, 2006; Hoffman et al., 1993; Teale, 2003). This

discussion can take place before, during, and/or after the read-aloud, but it must happen for a

read-aloud to fulfill its potential (Teale, 2003). This focused discussion is a big part of what

pushes content learning, absorption of literary concepts and strategies, and/or critical thinking

within the read-aloud experience (Hoffman et al., 1993; Teale, 2003).

To foster this important discussion, the instructor in Albright (2002) carefully crafted a

range of questions for the middle school students to consider (see Figure 4). Questions were

asked at various points in the read-aloud process: before the read-aloud, during the read-aloud,

and after the read-aloud (Albright, 2002). Second, the questions touched a variety of purposes:

student interest, prior knowledge, reading purpose, aesthetic response, efferent response, and

curriculum content (Albright, 2002). Finally, the questions spanned all levels of comprehension,

including textually explicit information, textually implicit information, and questions based on

prior knowledge (Albright, 2002). Overall, these questions set the stage for the collaborative talk

and construction of meaning that took place during the actual read-aloud.

**Read-alouds and Perspective.** Beyond seeing the read aloud as a mere instructional tool

to boost achievement and motivation, narrative/literary fiction also has the capability to expand a

reader's perspective, and this function of literature is especially important in the context of this

experiment (Mar & Oatley, 2008; Vezzali, Stathi, Giovanni, Capozza, & Trifiletti, 2015). In

looking at studies of this nature, participants usually discuss the life experiences of characters

from books (Mar & Oatley, 2008; Vezzali et al., 2015) . Thus, readers' ability to connect to, to

relate to, and/or to take on the perspective of book characters was important and necessary.

According to Mar and Oatley (2008), fiction is a simulated social experience that allows readers

"to experience social situations vicariously, thus allowing for personal consideration of response

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and action" (p. 183). Readers of fiction are able to explore their own ideas, feelings, desires, and reactions to the events in a story, and reading may prepare readers for similar events in their own lives (Mar & Oatley, 2008). In addition, reading fiction supplies more advantages than spontaneously creating stories in our minds:

> When reading, we are also recipients of a narrator's or protagonist's construal of the situation and its solution, and such a contribution may provide us with new perspectives and possibly new solutions. Narratives allow us to try out solutions to emotional and social difficulties through the simulation of these experiences, as we try to comprehend the actions of protagonists and ponder how our own responses may compare were we presented with the same situation (Mar & Oatley, 2008, pp. 183-184).

Overall, fiction literature allows for greater understanding of others and ourselves (Mar & Oatley, 2008).

In conclusion, read-alouds have proven to be a powerful instructional tool in the classroom. Though not traditionally used in middle school, picture books are increasing in complexity and thematic content (Costello & Kolodziej, 2006). Thus, read-alouds are shaping up to be a great instructional tool, as well as a motivational tool, and tool for personal growth for this population of readers.

## Connection Between Growth Mindset, Character Strengths and Read Alouds

After examining the research on growth mindset, read-alouds, and character strengths, a few key points emerged that informed the focus and format of the study.

- **Key Point #1:** Possessing an incremental theory of intelligence (i.e. growth mindset) is beneficial to students' goal orientations ( Blackwell et al., 2007; Mueller & Dweck, 1998;), behavior patterns (Dweck & Leggett, 1988; Kamins &

Dweck, 1999; Mueller & Dweck, 1998;), and academic achievement (Aronson et al., 2002; Mueller & Dweck, 1998; Romero et al., 2014).

- **Key Point #2:** Growth mindset can be taught through school-based interventions (Aronson et al., 2002; Blackwell et al., 2007).

- **Key Point #3:** Research within the domain of positive psychology has shown that character strengths make a difference in the lives of adolescents (Duckworth & Seligman, 2005; Gillham, et al., 2011; Shoshani & Slone, 2013). Character strengths can also be taught through intervention ( Oppenheimer et al., 2014; Seider et al., 2013).

- **Key Point #4** Read-alouds are an effective, but underutilized, instructional tool for adolescents (Albright, 2002; Albright & Ariail, 2005; Ivey & Broaddus, 2001; Ivey, 2003).

Since these specific character strengths (i.e., love of learning, curiosity, persistence, optimism) are an ingrained part of growth mindset, these strengths, in my estimation, present another way to educate students about growth mindset and to change students' implicit theories of intelligence. This study aimed to merge key ideas from extant research to propose a read aloud-intervention focused on instruction about specific character strengths to promote growth mindset within students. Thus, the primary focus of this study is  to examine whether exposing students to these targeted character strengths via read-alouds will increase their belief in the malleability of intelligence.

Table 3 (on pg. 24) summarizes how key features of Dweck and Leggett's (1988) theory intersect with specific character traits from the VIA-Youth survey and with KIPP's existing character strength framework.

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## Chapter II:  Methods

**Overview**

This experiment sought to examine whether reading aloud books on specific character strengths was a feasible way to increase or promote a student's growth mindset.  The read-aloud was used as the instructional medium to expose the students to specific character strengths (i.e., love of learning, curiosity, optimism, and persistence), all of which also align to the concept of growth mindset.  Over four weeks, fifth and sixth graders took part in six intervention sessions, plus two sessions when measures were administered.  During each of the intervention sessions, the read-aloud was the focus activity. Each read-aloud session included strategic questions that prompted discussion about the specific character strengths and the concept of growth mindset. The pre-test and post-test questionnaires measured constructs of intelligence malleability and character strengths (i.e. love of learning, curiosity, hope, and persistence). The experiment was conducted using a control group design.

**Research Approval**

Following approval by the thesis committee, this study was submitted to the University of Kansas Internal Review Board (IRB) and approved on December 2, 2016.

**Recruitment and Participants**

One hundred fourteen fifth and sixth grade students (Male=53) participated in this study. Data collection began on January 9, 2017 and concluded on February 2, 2017.  Participants for this study were recruited from a KIPP charter school in California. The campus is one of eleven KIPP campuses throughout the nation that seek to close "the achievement gap between low-income students and their more advantaged peers" (KIPP Bay Area Schools, 2014).  The campus serves 416 students in grades 5-8, 93% of which are students of color, and 68% of which qualify for free or reduced-price lunch (KIPP Bay Area Schools, 2014). Academically, the school is

particularly high-performing and was named as an "Exemplary Achievement Gap Closing School" by the National Blue Ribbon Schools Program in 2014. During the 2014-2015 school year, 81% of fifth graders and 78% of sixth graders met or exceeded the standard on the Smarter Balanced Assessment Consortium (SBAC) assessment for ELA (California Department of Education, 2016). That is much higher than the average performance of fifth and sixth graders in the entire state of California (5th: 44%; 6th: 43%) (California Department of Education, 2016). In addition, 78% of fifth graders and 59% of sixth graders met or exceeded the standard on the SBAC Math assessment. For the state of California, the average performance in fifth and sixth grades for Math was in the 30-percent range (California Department of Education, 2016). Overall, the school has sustained a high level of achievement, in comparison to surrounding schools.

**Procedure**

After attaining IRB approval, consent forms were sent home to all parents of fifth and sixth graders. On the form, consent was either affirmed or denied by the parent or guardian of each child per IRB regulations. Among fifth graders, there were 105 eligible students. Parental consent was granted for 70 students, 16 students were denied parental consent, and 19 students did not return a consent form. Among sixth graders, there were 102 eligible students. Parental consent was granted for 45 students, 20 students were denied parental consent, and 37 students did not return a consent form. Thus, for the entire sample there was a response rate of 73% and an enrollment rate of 55%. However, four participants were eliminated due to their inability to attend intervention sessions. Thus, a total of 68 fifth graders and 43 sixth graders were selected to participate in the study.

Eligible participants then needed to be assigned to the control group or the experimental group. In order to maintain equal proportions of boys and girls in both conditions, lists were sorted by gender, then put in alphabetical order by last name. Starting at the top of each list, the researcher then assigned each participant to the control group or experimental group, systemically alternating between the two conditions for each participant on the list. For scheduling purposes, intervention sessions occurred in two different blocks of time: study hall or after school. Nevertheless, the content of the intervention sessions was the same. Depending on a student's availability and potential conflicts like academic intervention or sports groups, the researcher divided those in the experimental group between those two blocks of time to maintain reasonably sized groups for the reading intervention (see Table 1).

Table 1

Participant group breakdown by condition

|  | Control Condition | Experimental Condition: Study Hall Group | Experimental Condition: After School Group |
| --- | --- | --- | --- |
| Fifth Grade (n=68) | 34 | 17 | 17 |
| Sixth Grade (n=46) | 23 | 13 | 10 |
| Total (N=114) | 57 | 30 | 27 |

**Pre-test.** To examine whether read-alouds had the capability to enhance growth mindset within this student population, two specific pre-test measures were used. The *VIA Inventory of Strengths for Youth (VIA-Youth)* was given to measure the character strengths of persistence, curiosity, love of learning, and hope. (See Appendix B for sample questions). Following this

pre-test, separate subscale scores provided a baseline measure for each specific character

strength, which were used to track change in these character strengths in accordance with the

read-aloud intervention.

To gauge students' theory of intelligence, students took the *Implicit Theories of*

*Intelligence Scale for Children* (Dweck, 2000). In this study, the scale was used to measure

students' beliefs about whether intelligence is fixed or malleable. (See Appendix C for full

measure).

**Intervention**. The intervention sessions took place between January 9, 2017 and February 2,

2017. The experimental condition included six intervention sessions, delivered over three weeks.

Each character strength was covered twice over the course of the intervention period. The

researcher kept attendance records for all intervention sessions, and participants who missed

more than two intervention sessions were eliminated from data analysis. The length of the

intervention is consistent with other growth mindset interventions. For example, in Blackwell et

al. (2007), eight sessions were administered to a group of low-achieving 7th grade students over

the span of eight weeks (i.e. one session per week). Another study by Aronson, Fried, and Good

(2002) conducted a very successful growth mindset intervention that was comprised of three

sessions, each spaced 10 days apart. Despite the varying lengths of the interventions, students in

both studies showed increased "malleability of intelligence" beliefs in post-test measures

(Aronson et al., 2002; Blackwell et al., 2007). Hence, the six sessions over the span of four

weeks for this study was appropriate. The schedule and outline of concepts covered in each

session can be found in Figure 5 below.

To select books for the intervention sessions, the researcher sent a Google Doc to various

educators and children's librarians in the Kansas City metropolitan area, who suggested books

with characters who exemplified the character strengths of grit, curiosity/love of learning, and optimism. The researcher surveyed the choices and picked two books for each character strength. The books selected for grit were *The Most Magnificent Thing* by Ashley Spires and *Brave Girl: Clara and the Shirtwaist Makers' Strike of 1909* by Michelle Markel.  The books selected to showcase curiosity/love of learning are *On a Beam of Light: A Story of Albert Einstein* by Jennifer Berne and *The Boy Who Loved Math: The Improbable Life of Paul Erdos* by Deborah Heiligman. The books chosen to highlight the strength of optimism were *The Gardener* by Sarah Stewart and *The Big Little Book of Happy Sadness* by Colin Thompson.

Figure 5

| *Schedule for Intervention Sessions* |
|---|
| *Session One:* Pre-Test Measures Administered |
| *Session Two:* Read-aloud focused on grit- *The Most Magnificent Thing* by Ashley Spires |
| *Session Three:* Read-aloud focused on optimism- *The Gardener* by Sarah Stewart |
| *Session Four:* Read-aloud focused on curiosity- *On a Beam of Light* by Jennifer Berne |
| *Session Five:* Read-aloud focused on grit- *Brave Girl* by Michelle Markel |
| *Session Six:* Read-aloud focused on optimism- *The Big Little Book of Happy Sadness* by Colin Thompson |
| *Session Seven:* Read-aloud focused on curiosity- *The Boy Who Loved Math* by Deborah Heiligman |
| *Session Eight:* Post-Test Measures Administered |

To maximize consistency of the intervention, the lessons were administered by the researcher, who read each text aloud to the students.  Each intervention session was about 40 minutes long, the focus being the read-aloud. Throughout the read-aloud, the researcher paused and posed questions to the students about the specific character strength. The format of the

discussion varied. Sometimes students talked in small groups, and at other points, single students shared their individual ideas with the whole group.

To better understand whether participants understood the connection between character strengths and intelligence, a written component was included within certain sessions. Since each character strength included two read-alouds, a written reflection was included on the concluding read-aloud for each strength. Each reflection included two questions. One question asked participants about the meaning of the character strength. The second question required participants to explicate how a specific character strength connected to intelligence.

Overall, the progression of each intervention session followed this approximate timeline. First, students entered into the classroom and attendance was taken. Each lesson began with a review of the specific character strength for that day (e.g. curiosity, optimism, or grit). The read-aloud would then begin. The researcher paused purposefully at specific points throughout the story to ask questions about the character strength, and more specifically about how that character strength affected the character's views about their own intelligence.

**Post-Test.** The post-test was administered after all read-alouds were completed. Similarly, the *VIA-Youth Survey* measured the character strengths of persistence, curiosity, love of learning, and hope, and Dweck's *Implicit Theories of Intelligence Scale for Children* assessed the students' theories of intelligence.

**Measures**

**Demographic measures.** Basic demographic information was provided to the researcher, which included age, gender, and race.

**Character strengths measure.** Participants completed the 96-item VIA Inventory of Strengths for Youth (VIA Youth Survey) (Park & Peterson, 2006). This measurement tool was

attractive for this study because it included age-appropriate items for each of the character strengths, phrased in simple language with no idioms or metaphors (e.g., "When I start a project, I finish it"). In addition, the VIA Youth Survey also referred to familiar settings and situations like school, friends, and family. Response options were presented on a 5-point scale from "not like me at all" (1) to "very much like me" (5). This measure was shortened from the original 198-item VIA Youth Survey, and was found to be "a more efficient and equally valid alternative" (VIA Institute on Character, 2017). Using two separate samples, the mean alpha coefficients were found to be higher for the shorter measure ($\alpha$=0.87, 0.84) (VIA Institute on Character, 2017).

During the administration of this measure, students were told that they were going to be asked a series of questions about "how they viewed themselves", that their job was to decide how much a certain statement described them, and there were no wrong or right answers.

**Growth mindset measure.** To assess the students' theory of intelligence before and after the intervention, this study also utilized the *Implicit Theories of Intelligence Scale for Children* (Dweck, 2000). This scale, created for children 10 years and older, presented six statements about students' beliefs about intelligence and its ability to change. Example questions include "You have a certain amount of intelligence, and you really can't do much to change it" and "No matter who you are, you can change your intelligence a lot" (Dweck, 2000). Response options are presented on a 6-point scale from 1 (Strongly Agree) to 6 (Strongly Disagree). Scores from the six items were totaled with higher scores indicating stronger beliefs about intelligence malleability. Appropriate items will be reverse-coded, in order to create a consistent score for each individual. Previous research has illustrated the high internal reliability for this measure ($\alpha$s ranged from .94 to .98) (Dweck, Chiu, & Hong, 1995).

During the administration of this measure, intelligence was defined as "how much knowledge someone has". Again, students were encouraged to respond honestly about each statement, and they were also reminded that there were no right or wrong answers.

**Analysis Plan and Hypotheses**

Analyses of pre- to post-test change were conducted using repeated measures ANOVAs, with condition (experimental vs. control) as a between-subjects variable and time (pre- versus post-test) as a within-subjects variable. Analyses of relations between measures were conducted using bivariate correlations.

My specific hypotheses included:

- **H1:** *Incremental theories of intelligence (i.e., growth mindset) will increase from pretest to posttest for students in the intervention, but not the control, condition.*

- **H2:** *Scores on relevant character strengths (i.e., curiosity, love of learning, persistence, and hope) will increase from pretest to posttest for students in the intervention, but not the control, condition.*

- **H3:** *Incremental TOI beliefs will be positively correlated with relevant character strengths (i.e., curiosity, love of learning, persistence, and hope) at both pre- and post-test.*

## Chapter III: Results

**Overview**

The primary question of interest was whether the read-aloud intervention would influence participants' character strengths (i.e., curiosity, love of learning, perseverance, and optimism, as measured using the VIA Inventory of Strengths for Youth) and theory of intelligence (as measured using Dweck's (2000) Implicit Theories of Intelligence Scale for Children). To examine whether responding on each of these measures varied between participants in the experimental condition and participants in the control condition, repeated measures ANOVAs were conducted with condition (experimental versus control) as a between-subjects variable and time (pretest versus posttest) as a within-subjects variable. The results for each of the dependent variables are presented below.

A secondary research question concerned whether character strengths and growth mindset were correlated. Separate bivariate correlations were calculated between each character strength measure and the theory of intelligence measure, and the correlations were reported by condition (e.g. experimental group, control group, or all participants combined). Correlations were run separately for both pretest and posttest data.

To examine whether results differed by grade level, analyses were run separately for each grade level (i.e., fifth versus sixth grade; see Table 4). However, no differences between fifth and sixth grade were evident in the presence of time X condition interaction effects, so these results are not reported.

**Reliability Data**

At preintervention, inter-item reliability for the theory of intelligence scale was acceptable ($\alpha$ = .74).  At postintervention, inter-item reliability for the theory of intelligence scale was again acceptable ($\alpha$ = .84).

Inter-item reliability could not be calculated for the measure of character strengths (i.e. curiosity, hope, love of learning, perseverance). The score report provided from the VIA Inventory of Strengths for Youth included subscale scores for each character strength, but individual item responses were not provided.

Scores on each measure were also strongly correlated over time (see Table 2).

Table 2

Bivariate Correlations Between Measures at Time 1 (T1) vs Time 2 (T2)

|  | T2 Curiosity | T2 Hope | T2 Perseverance | T2 Love of Learning | T2 Growth Mindset |
|---|---|---|---|---|---|
| T1 Curiosity | .69*** |  |  |  |  |
| T1 Hope |  | .58*** |  |  |  |
| T1 Perseverance |  |  | .74*** |  |  |
| T1 Love of Learning |  |  |  | .72*** |  |
| T1 Growth Mindset |  |  |  |  | .67*** |

Key: * = p < .05, ** = p < .01, *** =  p < .001

**Effects of Condition: Character Strengths**

**Curiosity**. Results of the repeated-measures ANOVA revealed that there was a significant effect of time, $F(1,101)=14.09, p<.001$.  However, there was no time by condition interaction, $F(1,101)=.59, p=.44$. Overall, these results indicate that participants' curiosity increased over the course of time (see Table 3 for means), but the amount of change did not differ between experimental and control groups.

**Hope.**  Results of the repeated-measures ANOVA revealed that there was a significant effect of time, $F(1,101)=9.82, p=.002$, but there was no time by condition interaction

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*F*(1,101)=.34*, p=.56.* Overall, these results indicate that participants' levels of hope increased

over time (see Table 3 for means), but the amount of change did not differ between the

experimental and control groups.

**Perseverance.** Results of the repeated-measures ANOVA indicated that the character

strength of perseverance showed no statistically significant effect of time, *F*(1, 101)=3.01*,

p=.086*, and results also showed no interaction effect between time and condition,

*F*(1,101)=2.41, *p=.12* (see Table 3 for means).

**Love of learning.** Results of the repeated-measures ANOVA indicated a main effect of

time, *F*(1,101)=9.21, *p=.003,*but no interaction between time and condition, *F*(1,101)=1.71,

*p=.19*. Overall, these results indicate that participants' levels of love of learning increased over

time (see Table 3 for means), but the amount of change did not differ between the experimental

and control groups.

Table 3

Means Table for Character Strengths and Growth Mindset by Assigned Group

| **Control Group** | | | | | | |
|---|---|---|---|---|---|---|
| | | PRE | | POST | | DIFFERENCE |
| | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 54 | 3.56 (0.85) | 56 | 3.88 (0.92) | 54 | 0.32 |
| Hope | 54 | 3.65 (0.75) | 56 | 3.93 (0.71) | 54 | 0.28 |
| Perseverance | 54 | 3.88 (0.89) | 56 | 4.08 (0.79) | 54 | 0.20 |
| Love of Learning | 54 | 3.25 (0.95) | 56 | 3.58 (1.02) | 54 | 0.33 |
| Theory of Intelligence | 53 | 4.84 (0.79) | 56 | 4.78 (0.96) | 53 | -0.06 |

**Experimental Group**

| | PRE | | POST | | DIFFERENCE | |
|---|---|---|---|---|---|---|
| | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 52 | 3.89 (0.82) | 50 | 4.10 (0.67) | 50 | 0.21 |
| Hope | 52 | 3.78 (0.74) | 50 | 3.92 (0.83) | 50 | 0.14 |
| Perseverance | 52 | 3.99 (0.61) | 50 | 4.00 (0.72) | 50 | 0.01 |
| Love of Learning | 52 | 3.64 (0.89) | 50 | 3.75 (0.87) | 50 | 0.11 |
| Theory of Intelligence | 52 | 4.58 (0.88) | 50 | 4.69 (0.96) | 50 | 0.11 |

**Combined Groups**

| | PRE | | POST | | DIFFERENCE | |
|---|---|---|---|---|---|---|
| | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 106 | 3.73 (0.85) | 106 | 3.99 (0.81) | 106 | 0.26 |
| Hope | 106 | 3.72 (0.75) | 106 | 3.93 (0.77) | 106 | 0.21 |
| Perseverance | 106 | 3.94 (0.76) | 106 | 4.04 (0.76) | 106 | 0.10 |
| Love of Learning | 106 | 3.45 (0.94) | 106 | 3.67 (0.95) | 106 | 0.22 |
| Theory of Intelligence | 105 | 4.71 (0.84) | 106 | 4.74 (0.95) | 105 | 0.03 |

**Effects of Condition: Theory of Intelligence**

Regarding students' beliefs about the malleability of intelligence, results showed no main effect of time, $F(1, 101)=.22, p=.64.$ Additionally, there was no effect for the interaction between time and condition, $F(1,101)=.583, p=.45.$

**Correlations Between Character Strengths and Theory of Intelligence**

The third hypothesis of this study concerned the correlation between the character strengths and growth mindset (see Table 5 below for correlation data). Overall, it appears that the proposed connection between character strengths and theory of intelligence was not consistent across the span of the intervention. Results showed moderate positive correlations between theory of intelligence and character strengths for pretest data ($r$s ranged from .25 to .34 for the combined sample), but there were no significant correlations between theory of

intelligence and character strengths for posttest data ($r$s ranged from .09 to .19).  Separate

analyses by condition (e.g. experimental group or control group) did not change these outcomes

(see Table 5).

Table 4

Means Tables for Character Strengths and Growth Mindset by Grade Level

| 5th Grade Control Group | | | | | | |
|---|---|---|---|---|---|---|
| | PRE | | POST | | DIFFERENCE | |
| | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 31 | 3.64 (0.77) | 34 | 3.90 (0.92) | 31 | 0.26 |
| Hope | 31 | 3.67 (0.75) | 34 | 3.90 (0.74) | 31 | 0.23 |
| Perseverance | 31 | 3.90 (0.89) | 34 | 4.17 (0.71) | 31 | 0.27 |
| Love of Learning | 31 | 3.31 (0.96) | 34 | 3.64 (0.96) | 31 | 0.33 |
| Theory of Intelligence | 30 | 5.13 (0.78) | 33 | 4.93 (1.03) | 30 | -0.20 |

| 5th Grade Experimental Group | | | | | | |
|---|---|---|---|---|---|---|
| | PRE | | POST | | DIFFERENCE | |
| | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 32 | 3.86 (0.77) | 31 | 4.05 (0.59) | 31 | 0.19 |
| Hope | 32 | 3.86 (0.70) | 31 | 3.91 (0.86) | 31 | 0.05 |
| Perseverance | 32 | 3.95 (0.56) | 31 | 3.99 (0.76) | 31 | 0.04 |
| Love of Learning | 32 | 3.78 (0.78) | 31 | 3.90 (0.81) | 31 | 0.12 |
| Theory of Intelligence | 32 | 4.61 (0.81) | 30 | 4.67 (0.96) | 30 | 0.06 |

| 5th Grade Combined | | | | | | |
|---|---|---|---|---|---|---|
| | PRE | | POST | | DIFFERENCE | |
| | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 63 | 3.75 (0.77) | 65 | 3.96 (0.78) | 63 | 0.21 |
| Hope | 63 | 3.77 (0.72) | 65 | 3.90 (0.79) | 63 | 0.13 |
| Perseverance | 63 | 3.93 (0.74) | 65 | 4.08 (0.74) | 63 | 0.15 |
| Love of Learning | 63 | 3.55 (0.90) | 65 | 3.77 (0.90) | 63 | 0.22 |
| Theory of Intelligence | 62 | 4.86 (0.83) | 63 | 4.81 (1.00) | 62 | -0.05 |

**6th Grade Control Group**

|  | PRE | | POST | | DIFFERENCE | |
| --- | --- | --- | --- | --- | --- | --- |
|  | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 23 | 3.45 (0.96) | 22 | 3.85 (0.93) | 22 | 0.40 |
| Hope | 23 | 3.62 (0.78) | 22 | 3.98 (0.68) | 22 | 0.36 |
| Perseverance | 23 | 3.84 (0.92) | 22 | 3.94 (0.90) | 22 | 0.10 |
| Love of Learning | 23 | 3.17 (0.95) | 22 | 3.49 (1.12) | 22 | 0.32 |
| Theory of Intelligence | 23 | 4.46 (0.65) | 23 | 4.55 (0.82) | 23 | 0.09 |

**6th Grade Experimental Group**

|  | PRE | | POST | | DIFFERENCE | |
| --- | --- | --- | --- | --- | --- | --- |
|  | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 20 | 3.95 (0.91) | 19 | 4.17 (0.80) | 19 | 0.22 |
| Hope | 20 | 3.66 (0.80) | 19 | 3.92 (0.81) | 19 | 0.26 |
| Perseverance | 20 | 4.03 (0.68) | 19 | 4.01 (0.67) | 19 | -0.02 |
| Love of Learning | 20 | 3.41 (1.02) | 19 | 3.49 (0.93) | 19 | 0.08 |
| Theory of Intelligence | 20 | 4.53 (0.99) | 20 | 4.72 (0.97) | 20 | 0.19 |

**6th Grade Combined**

|  | PRE | | POST | | DIFFERENCE | |
| --- | --- | --- | --- | --- | --- | --- |
|  | N | M (SD) | N | M (SD) | N | M (SD) |
| Curiosity | 43 | 3.68 (0.96) | 41 | 4.00 (0.88) | 41 | 0.32 |
| Hope | 43 | 3.64 (0.78) | 41 | 3.95 (0.73) | 41 | 0.31 |
| Perseverance | 43 | 3.93 (0.81) | 41 | 3.98 (0.79) | 41 | 0.05 |
| Love of Learning | 43 | 3.28 (0.98) | 41 | 3.49 (1.02) | 41 | 0.21 |
| Theory of Intelligence | 43 | 4.49 (0.82) | 43 | 4.63 (0.89) | 43 | 0.14 |

Table 5

Bivariate Correlations Between Character Strengths and Growth Mindset

**Pre-Intervention Correlations**

| Control Group | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 1 Curiosity | .63*** | .62*** | .71*** | .34* |
| 2 Hope | | .65*** | .63*** | .24 |
| 3 Perseverance | | | .62*** | .40** |
| 4 Love of Learning | | | | .28* |
| 5 Growth Mindset | | | | |
| **Experimental Group** | | | | |
| 1 Curiosity | .36** | .49*** | .52*** | .42** |
| 2 Hope | | .40** | .48*** | .28* |
| 3 Perseverance | | | .52*** | .26 |
| 4 Love of Learning | | | | .34* |
| 5 Growth Mindset | | | | |
| **All Participants Combined** | | | | |
| 1 Curiosity | .51*** | .56*** | .63*** | .34*** |
| 2 Hope | | .54*** | .57*** | .25* |
| 3 Perseverance | | | .57*** | .31*** |
| 4 Love of Learning | | | | .27** |
| 5 Growth Mindset | | | | |

**Post-Intervention Correlations**

| Control Group | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| 1 Curiosity | .59*** | .53*** | .67*** | .18 |
| 2 Hope | | .73*** | .66*** | .08 |
| 3 Perseverance | | | .63*** | .24 |
| 4 Love of Learning | | | | .13 |
| 5 Growth Mindset | | | | |
| **Experimental Group** | | | | |
| 1 Curiosity | .41** | .35* | .71*** | .17 |
| 2 Hope | | .60*** | .36* | .10 |
| 3 Perseverance | | | .41** | .13 |
| 4 Love of Learning | | | | .19 |
| 5 Growth Mindset | | | | |
| **All Participants Combined** | | | | |
| 1 Curiosity | .49*** | .45*** | .69*** | .17 |
| 2 Hope | | .66*** | .51*** | .09 |
| 3 Perseverance | | | .53*** | .19 |
| 4 Love of Learning | | | | .15 |
| 5 Growth Mindset | | | | |

Note: * = $p < .05$, ** = $p < .01$, *** = $p < .001$

**Chapter IV:  Discussion**

Over the years, researchers have conducted studies to show the overall benefits of possessing a growth mindset (Dweck & Leggett, 1988; Mueller & Dweck, 1998; Aronson et al., 2002;  Blackwell et al., 2007; Romero et al., 2014; Stern et al., 2015).  Additionally, researchers have created successful interventions that have focused on how to foster growth mindset within student populations (Aronson et al., 2002; Blackwell et al., 2007; Paunesku et al., 2015; Stern et al., 2015; Trzesniewski & Dweck, 2007).  No previous experimental work had, however, focused on the potential of literature to foster a growth mindset, which was the focus of this study.

Overall, the results of this study indicated that the read-alound intervention did not increase either students' growth mindset or students' character strengths (i.e., curiosity, love of learning, hope, or perseverance). In addition, the results of this study potentially call into question the connections between character strengths and growth mindset proposed by the researcher.

**Inconsistent changes in growth mindset and character strengths**

One focus of the research study examined whether the intervention brought about change in participants'character strengths and growth mindset over time. Some character strength measures showed significant gains over time (i.e., hope, love of learning, and curiosity) when looking at all participants; however, none of those changes were significantly greater for participants in the intervention condition than those in the control condition. Unfortunately, it seems that the read-aloud intervention was not an effective way to increase character strengths or growth mindset.

**Possible Explanations.** The intervention did not produce the intended results. There are several reasons as to why this may have happened, each of which will be more thoroughly explained below:

*History effect.* The internal validity of this study may have been threatened by a history effect. An effect of history is evident when something outside the experimental intervention causes an effect. In this case, pre-existing knowledge about the key concepts of character strengths and growth mindset on this school's campus may have impacted the intervention's effectiveness. Character strengths and growth mindset were not novel concepts for either the teachers or the students at the school site. As stated previously, KIPP charter schools have incorporated character strengths into their educational model, and as a result, teachers talk about and promote these character strengths with students on a daily basis. In addition, there were several bulletin boards around the school that featured growth mindset. The intervention sessions were certainly not the only times when students received messages about character strengths or growth mindset. Additionally, students who were not in the experimental group may certainly have received messages concerning character strengths and/or growth mindset from teachers or other school staff. Overall, the intervention may have not made as big of a difference as hoped for, due to the fact that teachers and staff were talking about and promoting character strengths and/or growth mindset at the same time as the intervention was taking place.

*Testing Effect.* A testing effect may also have threatened the internal validity of this study. Such an effect can occur when prior experience with a test or measure influences later responding. In the case of this growth mindset intervention, a testing effect may have occurred because of students' awareness about the measures' connections to values of the school, or due to students making inferences about the purpose of the research project. Overall, students knew

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this this study related to the concept of character strengths, and as previously mentioned, students at this school knew about and valued the concept of character strengths. Thus, the prior testing may have reminded the students that the measures were connected to something important to their school, which may, in turn, have sensitized students to the constructs being measured. Because of this sensitivity, students may have been inclined to answer in a way that would show that character strengths had increased, even if they weren't a part of the experimental group.

*Initial high growth mindset numbers.* Because the school site was already familiar with the concept of growth mindset, students showed a high level of growth mindset from the start of the intervention, which also may have impacted the results of this study (see Table 2 above for overall Growth Mindset means).

The overall pre-intervention mean theory of intelligence score was 4.71 on a 6-point scale. The corresponding post-intervention mean theory of intelligence score was 4.73. Thus, these high initial numbers may have impacted the intervention's effectiveness. More specifically, since these participants already had such strong growth mindsets, the intervention may have had a limited impact. Thus, the intervention may have been more effective for students who didn't already possess such a strong growth mindset. If the intervention were ever replicated, it might make more sense to conduct the intervention with a population that doesn't already exhibit such a strong growth mindset. That way, researchers would be able to see the effects of the intervention more clearly.

**Unclear correlations between character strengths and growth mindset**

The other predominant focus of this research study was the proposed connections between the concept of growth mindset and specific character strengths (e.g. curiosity, love of learning, perseverance, and optimism). However, based on the correlational data, these

connections did not sustain the span of the intervention.  That is, the correlations appeared during pre-intervention data collection, but did not appear during post-intervention data collection.

**Possible Explanations.**  Overall, these inconsistent correlations between character strengths and growth mindset are, for the most part, confounding. With that said, some of the same threats to internal validity may have been a factor with these findings.

*History effect.* As previously mentioned, the intervention sessions were not the only times when students received messages about character strengths and/or growth mindset.  As such, messages received outside the time of intervention may have impacted how students thought about growth mindset and character strengths.

*Testing effect.* In addition, all participants in the study may have been affected by the testing environment, which may have impacted the correlational data.  On the whole, students at the school are very eager and motivated to show growth, and this may have increased their sensitivity when taking the measures for the second time.  Students may have felt pressure to show growth and to not mark similar answers on the second time around, which could explain the presence of correlation at pre-intervention, but the lack of correlation at post-intervention.

**Future Directions**

Although the results of this study did not reveal the intended connections, the results did illuminate some areas for future research.

**Measuring growth mindset.** Dweck's Implicit Theories of Intelligence Scale for Children is limited in its wording and restricts those taking the measure to think only about intelligence.  However, growth mindset is about more than intelligence and how much knowledge someone has.  It also relates to  how people think about themselves and how people act in certain situations.  Thus, because the items are so strictly worded in terms of intelligence,

the measure may have hindered respondents' ability to think about growth mindset as a broader construct and how these specific character strengths (e.g. curiosity, optimism, love of learning, perseverance) connect to the concept. Thus, a measurement tool that more broadly captures the beliefs, thoughts, and actions involved with possessing a growth mindset is an area for future research. This broad tool may reveal the connections between chracter strengths and growth mindset that seemed to be missing from the present study.

**Depth of self-reflection.** The inclusion of read-alouds in this study were intended to help participants to think about how a character exhibited a certain character strength and how that character strength helped them to view themselves, especially their own intelligence, in a different way. Although students seemed able to verbalize how a certain character strength helped a character in a book, results showed that students did not transfer that knowledge when thinking about themselves and their own intelligence. Thus, self-reflection seems to be a crucial link in this process, and it seems that the depth of self-reflection in this study was not sufficient to bring about the intended changes. Thus, future research might explore how to increase students' level of self-reflection when thinking about their character strengths and their intelligence.

**Conclusion**

Overall, this study did not produce the desired results. The current study failed to show that read-alouds are an effective tool to promote growth mindset. In addition, the study's results did not support the proposed connection between growth mindset and character strengths. Though the results of this study were less-than-ideal, they are also great reminders about what growth mindset is all about.

Dweck (2015) noted that "*A growth mindset isn't just about effort. Perhaps the most common misconception is simply equating the growth mindset with effort.*" Similarly, this study showed that shows that educators cannot just hope that just any activity will foster growth mindset and rely on their sheer effort.  In addition, Dweck (2015) said that the more important thing is "telling the truth about about a student's current achievement and then, together, doing something about it." Applying that advice, the truth is the read-aloud intervention did not prove effective at promoting or increasing growth mindset…yet.  Moving forward from here and persisting in the face of challenge and setback are the heart of the growth mindset concept. It is my hope that researchers can use these results to note what didn't work and chart a path forward in this area together.

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**Appendix A: Discussion Questions for Read-Alouds & Example Lesson Plan**

As established in the literature, the discussion that takes place before, during, and after a read aloud is a key component of a read aloud's success. As such, careful questions will be created and strategically placed throughout each of the read alouds to guide the discussion. These questions will prompt the students to think about and explore the meaning of each character strength. In addition, the questions will also prompt the students to think about how the specific character strength connects to the character's views about intelligence.

In the table below, you will find example questions that might appear during the read-aloud. Since every book is different, not every one of these question will be asked during every read-aloud. Rather, questions will be picked to adapt to the plot and circumstances of each book. *Note: Wherever you see X, insert the name of a character strength (curiosity, love of learning, persistence/grit, optimism).*

| Example Questions |
|---|
| • What is X? |
| • What is a time that you have had to show X? |
| • When (character) says "_____," is he/she showing X? Why/why not? |
| • When (character does _____, is he/she showing X? Why/why not? |
| • What might the character be thinking right now? What might he/she be thinking about his/her own intelligence? |
| • How did (character's) X help him/her? |
| • Where on this page does (character) show X? |

**Below, you will find an example lesson plan that was used for *The Most Magnificent Thing***

Lesson #1: The Most Magnificent Thing by Ashley Spires

So, today we really start. Our job these next few sessions is to really dive in and talk about books. Specifically, we are going to be talking about 3 main character strengths that can help us to think differently about ourselves and our intelligence.
GRIT, CURIOSITY, AND OPTIMISM

Our book today is going to focus on the character strength of GRIT. {write word on board}
[Share with your partner what you already know about this strength.]

-What is it? "**perseverance and passion for long-term goals. Finished whatever s/he began**"
-Why do we need it?
-When might we use it?


As we read today, we are going to be pausing and talking about this strength as it relates to the events in this book. As we're reading, it

Questions for The Most Magnificent Thing by Ashley Spires:
- Pg. 8—Think aloud—Hmmmm…If everything is all wrong, she has 2 options. She could 1) quit or 2) keep going. Let's see what the girl does…
- End of pg 8—Think aloud—Well, to 'give it another go,' that must mean she's going to try again. So, this seems like grit to me. Even though whatever she tried to make is all wrong, she is not letting that stop her.
- Pg. 10—Partner—Talk with the person around you, based on these pages, do you think she is showing grit? How?
- Pg. 12—Partner—Is the girl showing grit on these pages? Why/how?
- Pg. 20—Wow, she just EXPLODED! How could grit help her here?
- Pg. 21—Is she showing grit here? Why/why not? What do you think she might be thinking about herself at this point?
- Pg. 21—Is having grit always easy? Why/why not?
- Pg. 26— How did her grit help her here? What did she notice about her inventions with each new try? What would have happened if she did not have grit?
- END—By having grit and never giving up, what do you think she learned about herself? What do you think she learned about her intelligence throughout this book?
- After reading this book, how can we apply it to our own lives? How might we use our grit to help us think differently about our intelligence? What should we do when things get really hard, or when we're not feeling that intelligent?

## Appendix B—The VIA-Youth Survey

The VIA-Youth Survey (Park & Peterson, 2006) was developed as a tool to measure character strengths among youth, ages 10-17. This study will be using the shortened, 96-question, online format of this measurement tool. The full measure is not available to the public, but a sample of questions is available through the VIA Institute's website. These example items, which are not constrained to the character strengths relevant to this study, include:

- **"**When I start a project, I always finish it."

- **"**I often do nice things for others without being asked."

- "There is someone who will listen to me when I have a problem."

- "I think that life is very exciting."

- "I often stay mad at people even when they apologize."

- "I am usually full of energy."

- "I am certain I can get through bad times."

- "I get excited when I see there is something new to learn."

- "I expect good things to come my way."

- "I am always interested in discovering more."

- "If there is a chance to learn something new, I jump right in."

## Implicit Theories of Intelligence Scale for Children—Self Form

### (For Children Age 10 and Older)

Read each sentence below and then circle the *one* number that shows how much you agree with it. There are no right or wrong answers.

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

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

*2. Your intelligence is something about you that you can't change very much.

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

*3. You can learn new things, but you can't really change your basic intelligence.

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

4. No matter who you are, you can change your intelligence a lot.

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

5. You can always greatly change how intelligent you are.

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

6. No matter how much intelligence you have, you can always change it quite a bit.

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

*These three items can be used alone.