Abstract

Do Modern Orthodox Jewish Adolescents' Relationships with Parents, Teachers and

G-d Impact the Likelihood of Adopting a Growth Mindset?

Adopting a growth mindset has tremendous value, both in and out of the classroom.

In order to fully understand Growth Mindset, it is important to review literature on

Relationships and Attachment Theory because the two areas of scholarship share

characteristics and are dependent on similar aspects of parent-child, teacher-child,

and G-d-child relationships. This study examines the impact of these relationships

on the likelihood of adopting a growth mindset and hypothesizes that each individual

relationship will predict greater rate of growth mindset. The data partially supported

the hypotheses. In particular, relationships with parents were shown to be a

predictor of growth mindset; relationships with teachers were seen to predict greater

adoption of growth mindset, particularly among younger high school students, and

among students who earned mostly A's; and relationship with G-d was not

correlated or in some instances appeared to have a negative impact on growth

mindset.

Do Modern Orthodox Jewish Adolescents' Relationships with Parents, Teachers and
G-d Impact the Likelihood of Adopting a Growth Mindset?

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<u>**Chapter 1: Introduction**</u>

This dissertation seeks to connect Attachment Theory and relationships in one's life with the likelihood of adopting a Growth Mindset.

Attachment Theory

Attachment Theory describes the various ways of interacting with others as a result of bonding experiences from childhood and explains different patterns of human bonding; it can be categorized as secure or insecure. Attachment Theory is based on the seminal work of John Bowlby (1969) and Mary Ainsworth (1985) centered on the idea that all future attachments of an individual are dependent on the relationship between an infant and his or her primary caregiver (Bergin & Bergin, 2009; Buchanan, 2014). Secure attachments are attributed to having sensitive, responsive, accessible, accepting and lovingly available mothers (Bergin & Bergin, 2009; Crain, 2005). Research has shown that those with secure attachments are more adept at navigating life's experiences and challenges independently (Shaffer, 2009).

Securely attached children are better able to view their parents as a secure base from which they can comfortably and confidently explore and trust (Ainsworth, 1985), which enables them to take risks and learn. Their parents are emotionally available, sensitive and responsive, and provide guidance and support, but balance those qualities with allowing their children to be independent and encouraging autonomy. These

parents often adopt a mastery-oriented attitude, which is concerned with developing ability. They stress the importance of hard work, encouraging their children to excel and reach lofty goals. Parents of insecure children tend to adopt performance-oriented ability or a focus on documenting ability rather than learning and growth (Dweck & Leggett, 1988); these parents tend to be uninvolved and highly controlling (Shaffer, 2009).

Attachment styles can also be manifested in the child's functioning in the classroom environment (Bartholomew, 1990; Bergin & Bergin, 2009), both in terms of teacher-student and peer-to-peer relationships (Bergin &Bergin, 2009). Students with secure attachments have been shown to form relationships in the classroom, conform to class rules and protocols, and transition smoothly from one activity to the next (Bartholomew, 1990). Studies have shown that securely attached students view themselves and their interactions with both teachers and peers positively (Bartholomew, 1990). Children who have secure attachments are more able to explore their surroundings and interact with greater ease in all social contexts; therefore, socializing with the other children comes more naturally to them (Bergin & Bergin, 2009). Due to these advantages, students who do best in school tend to be those who are securely attached (Bergin & Bergin, 2009).

The attachment styles of students to their teachers often resemble their attachment styles to their parents (Bergin & Bergin, 2009) but do not always necessarily mimic their relationships with their parents (Creasy, 2009). Children with secure parent attachments are more likely those to whom the teacher has the easiest time connecting because they tend to share and interact with the teacher, follow

directions, transition smoothly, accept comfort when needed, and apologize when relevant (Bergin & Bergin, 2009).

The teacher-student relationship is integral to student learning. Learning and development depend on the presence of healthy interactions, such as the cooperation of teacher and student working towards student achievement (Eisenberg, 2010). Similar to parents, teachers who foster close and secure relationships with their students exhibit similar behaviors and practices, such as being available, warm and complimentary while also holding students to high standards and having high expectations of them (Creasy, 2009; Erickson & Phillips, 2012). Sometimes, a teacher's actions and behaviors are more predictive of a relationship than the student's pre-existing attachment style that was fostered by their parents. Even if the parent was not successful in terms of building a secure relationship, sometimes a teacher who promotes a trusting relationship can encourage a student who does not relate easily to others to be trusting and enter into a securely attached relationship. Studies suggest that the student-teacher relationship is correlated with positive academic achievements (Creasy, 2009).

In addition to a child's relationships with parents and teachers, the relationship with G-d in an attachment framework has been studied extensively. Often, one's attachment to G-d is similar to other relationships in one's life (Ainsworth, 1985; Bowlby, 1969; Eisenberg, 2010; Kelley, 2009). The type of relationship a religious adolescent has with G-d is often predicted by one's relationship with one's parents (Eisenberg 2010; McDonald, Beck, Allison, & Norsworthy, 2005). However, one can

also seek a relationship with G-d to compensate for an insecure relationship with his or her parents (Kirkpatrick, 1999).

Growth Mindset

Attachment theory is correlated with advantages in the classroom environment, and one possible explanation for its impact is the Implicit Theory of Intelligence, or mindset, of a student. The Implicit Theory of Intelligence refers to an individual's underlying beliefs about whether ability and intellect can change. Those with a growth mindset (or incremental theory of intelligence) believe that intelligence is malleable (Dweck& Leggett, 1988; Murphy & Dweck, 2010) and can be improved (Dweck, 2008; Dweck & Leggett, 1988; Yeager & Dweck, 2012). This group prioritizes learning, persistence, and hard work (Dweck, 2008). Those who have a fixed mindset (or entity theory of intelligence) mindset believe that one's intelligence cannot change (Dweck, 2008) and is a stable trait (Dweck & Leggett, 1988; Murphy & Dweck, 2010). Many of the factors that contribute to adopting a growth mindset resemble the factors that contribute to secure attachments, including a focus on relationship, trust, and growth (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2006; Dweck & Leggett, 1988) and effort, especially in the face of challenge (Dweck, 2008; Dweck & Leggett, 1988; Kamins &Dweck, 1999). Similar to securely attached students, students with growth mindsets have been shown to attain higher academic achievement (Anderson, Turner, Heath & Payne, 2016; Blackwell et al., 2007; Dweck, 2008; Yeager & Dweck, 2012).

Several studies have demonstrated that teachers can influence the mindset of their students (Allen, 2018; Blackwell et al., 2007; Park, Gunderson, Tsukayama, Levine, & Beilock, 2016; Sun, 2015;). Some studies suggest that mindset is not simply transmitted from teacher to student (Beaubien, 2018; Haimovitz &Dweck, 2017; Park et al., 2016; Sun, 2015; Zander, Brouwer, Jansen, Crayen, & Hannover, 2018), but can be successfully cultivated through interventions intended to teach and foster growth mindsets in students. In addition, there are practices that teachers can employ that lead children to adopt a growth mindset (Allen, 2018; Blackwell et al., 2007; Haimovitz & Dweck, 2017). The practices of these teachers similarly focus on effort, strategy, process, and resilience (Blackwell et al., 2007; Paunesku, Walton, Romero, Smith, Yeager, & Dweck, 2015; Sun, 2015; Yeager & Dweck, 2012). Jacquie Beaubien (2018) evaluates interventions intended to foster growth mindset in students and identifies three critical factors to successful interventions: structure, conveying high standards and expectations, and praise/feedback (Beaubien, 2018), which are similar to practices intended to create secure relationships. When evaluating teaching practices that are successful in fostering growth mindsets in their students, the techniques are noticeably similar to those that create secure attachments between students and teachers.

Similar to teachers, parents' mindsets are not predictive of children's mindsets (Ames & Archer, 1987), but, through their practices, parents have the ability to impact their children's mindsets (Ames & Archer, 1987;Haimovitz & Dweck, 2017). Parents convey priorities to their children and can guide their children toward a fixed or growth mindset, depending on if they are more mastery-oriented or performance-oriented

(Moorman & Pomerantz, 2010; Muenks, Miele, Ramani, Stapleton, & Rowe, 2015; Pomerantz, Ng & Wang, 2006). In particular, parents foster a growth mindset when they focus on praising the process rather than the outcome (Haimovitz & Dweck, 2017; Pomerantz & Kempner, 2013) and demonstrate resilient responses to failure (Haimovitz & Dweck, 2016; Haimovitz & Dweck 2017). Studies have shown that mastery orientation predicts fixed mindset and performance orientation predicts growth mindset (Moorman & Pomerantz, 2010; Muenks, et al., 2015; Pomerantz et al., 2006). Parent praise, parents' beliefs about their children's competence, and parents' responses to failure all predict the growth mindset of their children.

Having a growth mindset, which includes being able to take risks and rebound from failure, resembles characteristics of children with secure attachments; and having a fixed mindset, which includes avoiding challenges, lack of resilience, and lack of confidence, resembles characteristics of children with insecure attachments. It seems that having a growth mindset can be predicated on having secure attachments.

Chapter 2: Literature Review

Adopting a growth mindset has tremendous value, both in and out of the classroom. The many benefits are enumerated below. In order to fully understand Growth Mindset, it is important to review Attachment Theory because the two areas of scholarship share characteristics and are dependent on similar aspects of parent-child, teacher-child, and G-d-child relationships.

Attachment Theory

John Bowlby, the father of Attachment Theory (1969), states that the interaction between a mother (primary caregiver) and infant is the most important determining factor that will predict an individual's psychological development and his or her future relationships (Buchanan, 2014). Bowlby observed behaviors of children raised in institutions and noted their difficulty forming lasting relationships. He proposed that their difficulty stemmed from the lack of solid attachment present in mother-child relationships. The relationship between mother and child is the foundation for all of the child's future relationships over the course of his/her lifetime (Bergin & Bergin, 2009), and whether the caregiver-infant relationship is characterized by secure,

anxious/ambivalent or avoidant behaviors determines the types of relationships individuals are inclined to form over their lifetimes (Culver & Melinda, 2017).

While Bowlby's initial research focused on orphans placed in institutions (Crain, 2005), Mary Ainsworth (1985), a student of Bowlby, focused her attachment theory research on commonly occurring mother-child attachment patterns. Ainsworth's experiment, The Strange Situation, involved one-year-olds being placed in a strange situation, an unfamiliar playroom with an unfamiliar adult for three minutes, and then alone for three minutes (Crain, 2005). There were three types of reactions among the infants: secure, avoidant, and anxious-ambivalent (Buchanan, 2014).

Securely attached infants, those who had sensitive, responsive, accessible, accepting and lovingly available mothers (Bergin & Bergin, 2009; Crain, 2005), had a healthy pattern of attachment, crying when their mothers left, returning to them and clinging temporarily upon their return, and then, because their mothers had behaved in a way that earned their trust, the infants were able to resume exploration of the playroom independently (Crain, 2005). In older children, this pattern is evidenced by children who explore their surroundings with comfort, demonstrate engaged interaction with others, and exhibit autonomy (Bergin & Bergin, 2009). "Secure attachment *liberates* children to explore their world" (Bergin & Bergin, 2009, p. 142).

Insecure-avoidant infants, those who had mothers who were insensitive, interfering and rejecting (Bergin & Bergin, 2009; Crain, 2005), had an insecure attachment to their mothers, and, in The Strange Situation, they manifested as overly independent and did not greet their mothers upon their return and avoided their mothers by turning their bodies away or refusing to meet their eyes. These babies

acted defensively, which can become a fixed behavior, causing them to grow into adults who cannot form close and trusting relationships (Crain, 2005). Older children who display insecure attachment seem independent, turn away and tune out caregivers, do not seek comfort from caregivers when troubled, and avoid emotional closeness (Bergin &Bergin, 2009).

Insecure-ambivalent infants (Crain, 2005), those whose mothers were inconsistent, sometimes warm and responsive and sometimes not, reacted to The Strange Situation by being clingy and preoccupied with the whereabouts of their mothers, upset when others left the room and ambivalent upon their returns, alternating between clinging to their mothers and pushing them away. These babies behaved in this ambivalent manner as a reaction to their mothers' inconsistent behaviors, and consequently, they were uncertain which side of their mothers they were going to see at a given time (Crain, 2005). Bergin and Bergin further categorize this attachment style into insecure/resistant and insecure/disorganized-disoriented subgroups. Insecure/resistant children display behaviors that are highly emotional; they are difficult to comfort and they seek contact but are not soothed by it. Insecure/disorganized-disoriented children are nervous, especially around their primary caregiver (Bergin& Bergin, 2009).

Dizon (1984), while defining attachment behavior according to Ainsworth and Bolwby, underscores the synonymous meanings of Attachment and relationship. "Ainsworth (1964), defines attachment behavior as behavior through which a discriminating, differential, affectional relationship is established with a person or object, and which in turn tends to evoke a response from the object, initiating a chain

of interaction which serves to consolidate a relationship. Bowlby (1979) defines attachment behavior as any form of behavior that results in a person attaining or retaining proximity to some other differentiated and preferred individual who is usually conceived as stronger and/or wiser (Dizon, 1984, p. 27)."

When researching parenting in this era, one must consider overparenting, a relatively new type of parenting, and specifically two forms of overparenting, known as helicopter parenting and snowplow parenting. The overparenting approach results in a less capable child. Children of these types of parents struggle to engage with others (Scharf & Rousseau, 2017). Helicopter parents are overprotective parents who prevent their children from making mistakes. These parents do not realize that making mistakes is how children learn, and their parenting enables their children and prevents them from learning life-skills, including resilience, resourcefulness and motivation (Lythcott-Haims,2015). Resembling helicopter parenting, snowplow parenting, or parenting that aims to clear all hardships and obstacles for their children, similarly robs children of the chance to develop coping skills and strips them of the chance to develop autonomy (Miller, Brady, & Izumi, 2016). Even worse, these types of parenting contribute towards creating a generation of narcissistic adolescents (Grubbs, Exline, McCain, Campbell, & Twenge, 2019; Twenge & Campbell, 2010). This shift in parenting causes the opposite of what is needed to teach responsibility, and this transformation on parenting in terms of overparenting is unfortunately overprotecting children and preventing them from developing the skills they need to become empathetic, resilient, capable adults (Grubbs et al., 2019; Twenge & Campbell, 2010).

Attachment to Parents

Attachment Theory is often correlated with types of parenting. Authoritative Parenting is warm and accepting, provides guidance, is unintrusive, allows children some independence, and fosters positive academic attitudes and achievements. These parents support children in a positive manner as they complete their schoolwork: not controlling, but involved.

If parents are responsive and sensitive caregivers, infants will use them as a secure base from which to learn and begin to autonomously navigate challenges. If parents set reasonable goals, take an interest in their children's learning and provide support, children will develop a mastery-oriented attitude and will continue navigating challenges autonomously. Parents can stress that with hard work, their children can overcome challenges, communicate positive impressions about competencies, and earn praise for their efforts (Shaffer, 2009).

Erickson and Philips (2012) measured connection to parents by determining if children felt close to a parent, felt that a parent was warm and caring, felt they communicated well with a parent, and were satisfied with their relationships with a parent. Further research identifies three commonly occurring behaviors of parents with securely attached children.

1. Parents are warm, accepting and quick to praise
2. Parents provide guidance, have expectations that are feasible and reasonable, and supervise continually
3. Parents allow for some independence and autonomy (Shaffer, 2009).

These behaviors enable children to become adept at navigating life's experiences and challenges independently (independence training); children are thus encouraged to excel and reach lofty goals (achievement training) (Shaffer, 2009). It is worth noting, as will become clear shortly, that Attachment Theory does not specify what type of praise is best for children but groups all praise together.

How a primary caregiver interacts with a child sets the stage for relationships "from cradle to grave" (Bowlby, 1979, p. 129 as cited in Culver & Melinda, 2017). After the age of three, however, children begin to allow parental substitutes, such as teachers, into their lives (Crain, 2005).

Attachment to Teachers

One predictor of the teacher-student relationship is the student's pre-existing attachment style. Children with secure attachments are predisposed to have more positive relationships with teachers. Teachers respond to students with secure attachments warmly and have high expectations for behavior and are tolerant of them. Children who have insecure attachments are considered needy and childish, and teachers are more controlling, less accepting, and have lower expectations of them (Bergin & Bergin, 2009). Attachment to the teacher is not necessarily predicted by attachment to parents, but children with healthy parental attachment are the ones to whom the teacher has the easiest time connecting because of their behaviors and reactions (Bergin & Bergin, 2009). Though such behavior is unusual, children can develop a secure relationship with a teacher to partially compensate for an insecure relationship with the parent (Bergin & Bergin, 2009).

Teacher practices are integral to the relationship that they develop with their students (Bergin & Bergin, 2009; Bryan, Moore-Thomas, Gaenzle, Kim, Lin, & Na, 2012; Creasy et al., 2009; Eisenberg, 2018; Erickson & Philips, 2012). In order "to be effective, teachers must connect with and care for children with warmth, respect, and trust" (Bergin & Bergin, 2009, p. 150).

There are several benefits to having a secure relationship with one's teachers. When students feel confident and secure in their relationships with their teachers, they will be more engaged and interested, which predicts higher grades and academic achievement (Bergin & Bergin, 2009; Bryan et al., 2012), and enables students to feel secure and valued (Bergin & Bergin, 2009; Bryan et al., 2012). Secure attachment to parents and teachers is linked to greater academic achievement, emotional regulation, social competence, eagerness to try difficult work, and lower rates of ADHD and delinquency (Bergin & Bergin, 2009). For adolescents, school bonding, or feelings of connectedness to their schools, is similar to teacher attachment because it makes students feel secure and valued (Bryan et al., 2012).

Attachment to G-d

In addition to a child's relationships with parents and teachers, the relationship with G-d in an attachment framework has been studied extensively. Often, one's attachment to G-d is similar to other relationships in one's life (Ainsworth, 1985; Bowlby, 1979; Eisenberg, 2010; Kelley, 2009). The type of relationship a religious adolescent has with G-d is often predicted by one's relationship with one's parents (Eisenberg, 2010; McDonald et al., 2005). However, one can also seek a relationship with G-d to compensate for an insecure relationship with his or her parents (Culver &

Melinda, 2017; Kirkpatrick, 1999). "Correspondence" describes the nature of one's relationship with G-d when attachment style to parents and attachment style to G-d are similar (Kelley, 2009). "Compensation" describes when attachment to parents is not secure, and an individual seeks a relationship with G-d to compensate for a lack of a secure relationship with one's parents (Kirkpatrick, 1999).

There are many benefits to having a relationship with G-d. Lisa Miller (2015) describes the positive relationship between spirituality and resilience. Relationship with G-d is a component of religiosity, which can be synonymous with spirituality (Labbé & Fobes, 2010). It is important to note that there is copious literature regarding the similarities and differences between religiosity and spirituality which will not be discussed in this dissertation. The more spiritual an adolescent, the greater the coping mechanisms are, and the more resilient the child (Miller, 2015). Furthermore, managing stress has been shown to be positively correlated with spirituality and religion. Religion reinforces resources for coping with stress which leads to increased positive emotions, decreases chances of stress leading to emotional disorders (King & Boyatzis, 2015). Relationship with G-d leads to meaning and purpose, which in turn leads to a more optimistic worldview that there is a transcendent force that loves and cares for people (Koenig, 2012).

Relationship to G-d has also been shown to impact wellness and health. Researchers believe that "…a very strong personal relationship with a Higher Power, that carries into the broader arena of life, appears to be the primary source of spiritual life in adolescence that persists into adulthood and then extends outward in its implications for health and wellness" (Barkin, Miller, & Luthar, 2015).

Another important result of relationship to G-d is the relationship between spiritual health and increased academic achievement (Good & Willoughby, 2014; McBane, 2016; Warren, Lerner & Phelps, 2012). Students with greater spirituality have been shown to have higher grades (McBane, 2016). A theme that emerges repeatedly in a handbook by Warren, Lerner and Phelps is the strong correlation between academic performance and spirituality. The book consists of research performed across various cultures and populations including Hispanic, Israeli and Chinese, and the research supports that spirituality consistently predicts academic achievement (Warren et al., 2012).

Attachment in the Classroom

Students' attachment styles manifest themselves in the classroom in terms of their behaviors and the way they relate to others. Students whose behavior represents secure, preoccupied-anxious, fearful-avoidant, and dismissing-avoidant types can be characterized by various behaviors and styles (Bartholomew, 1990). The two main factors that contribute to attachment style depend on how individuals perceive themselves and how individuals perceive interactions with others (Bartholomew, 1990), which translates into whether the child will form relationships in the classroom, conform to class rules and protocols, and transition smoothly from one activity to the next. Securely attached students view themselves and their interactions positively; preoccupied-anxious students view themselves negatively but perceive positive interactions with others; fearful-avoidant students view both themselves and their

interactions negatively; and dismissing-avoidant students view themselves positively but perceive their interactions with others negatively. As a result, avoidant children have little interaction with teachers and can get lost in the shuffle, and can be highly clingy and emotional, and near-secure children can exhibit a combination of distrusting teachers and following rules.

Bergin and Bergin (2009) explain the two ways secure attachment is manifested in the classroom. First, children who have secure attachments are more able to explore their surroundings. Secondly, children who have secure attachments interact with greater ease in all social contexts; therefore, socializing with other children comes more naturally to them (Bergin & Bergin, 2009). Attachment is dependent on the ability to trust others, value oneself and value one's own ability to interact productively with others (Bergin &Bergin, 2009). The students who do best in school are securely attached; students who perform most poorly are those who are disorganized and avoidant, and resistant students' performance falls in the middle (Bergin & Bergin, 2009).

Relationships in the classroom are integral to learning. Lev Vygotsky (1978) posits that education occurs primarily in the Zone of Proximal Development, which describes the distance between what a child can do independently and what the same child can do with the assistance of a teacher asking guided questions and supporting their learning (Crain, 2010). Youth who cannot solve problems on their own can often solve problems with proper scaffolding (Eisenberg, 2010). This can give educators an indication of the potential of their students, and then as each student becomes more proficient, the assistance is reduced (Crain, 2005). In order for the teacher to optimally

teach the student, a relationship of mutual trust and respect must exist. Vygotsky describes the importance of relationships with regard to learning. The teacher's role in student learning is integral because learning occurs in the zone of proximal development. Development depends on the presence of healthy interactions, namely teachers and students working together to help students reach their highest potential (Vygotsky, 1978).

Highlighting the ubiquity of relationships in the learning process, Creasey, Jarvis, and Gadke, (2009) studied 263 18-22-year-old college students, 70% female, 85% Caucasian, in the psychology department participant pool at Midwestern University, who participated in the qualitative study to get extra credit. Student attachment style, teacher verbal and nonverbal immediacy[1], teacher-student relationship and achievement orientation were measured, and immediacy correlated with teachers and students having a relationship. Contrary to the hypothesis, attachment orientation was not necessarily correlated with the teacher-student relationship, suggesting that the teacher's actions and behaviors are more predictive of a relationship than the student's pre-existing attachment style. A teacher who promotes a trusting relationship can encourage a student who does not generally have positive relationships to have a positive relationship with the teacher. Results suggest that teachers' actions are critical to the learning environment, and the student-teacher relationship may encourage positive academic achievements (Creasey, Jarvis, & Gadke, 2009). Attachment to teachers can sometimes supersede attachment style,

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[1] These are verbal and nonverbal messages the teacher sends to the students that relate to the teacher's expectations, availability and investment in students' learning and success.

and that is important because there is so much potential in the teacher-student relationship.

Building on this exploration, Erickson and Phillips (2012) wondered if informal mentorships explain the link between adolescent religiosity and academic attainment, and they studied and interviewed 8,379 7-12-year-olds and their parents from 80 public schools They observed that adolescents are drawn to mentors to whom they feel similar and with whom they feel they can identify. The religious and cultural alignment of such mentors with their students could explain why these relationships are more predictive of educational outcomes than non-religious based mentors (The researchers observed that increased religious involvement correlates with the likelihood that an adolescent will report having a mentor. They defined religious involvement as religious salience, prayer, church attendance, and youth group participation. Furthermore, adolescents who reported having a mentor (religious or nonreligious) were at least twice as likely to graduate high school (Erickson and Philips identified the relationship as a major factor: "the mechanism for religious mentorships may have more to do with the qualitative nature of the relationship" (Erickson and Phillips, 2012, p.584). The authors quote earlier statements by Hamilton and Hamilton (2004) who describe that "the guidance is accomplished through demonstration, instruction, challenge, and encouragement on a more or less regular basis over an extended period of time. In the course of this process, the mentor and the young person develop a special bond of mutual commitment. In addition, the young person's relationship to the mentor takes on an emotional character of respect, loyalty, and

identification" (Erickson & Phillips, 2012, p. 570). Once again, the relationship is a critical component of the success of students.

In the same year, Bryan et al., (2012) studied the relationship between school bonding and academic achievement. They evaluated 10,426 high school seniors who attended U.S. public, private, and Catholic high schools and measured the effects of demographic variables, school bonding variables, attachment to school, attachment to teachers, school commitment, school involvement (independent variables) on 12th grade math achievement scores (dependent variables), and concluded that attachment to teachers may be more important to students' academic achievement in earlier grades, when students are transitioning from middle school. School involvement was still positively associated with academic achievement, even after prior academic achievement was accounted for (When students believe in the value of school, they are more likely to have a close connection to school which allows them to be more successful academically.

Hallinan (2008) hypothesized that students who perceive that their teachers like and care about them are more apt to like school and are more predictive of academic success than teachers' expectations. She studied 35,132 students from 6th through 10th grades in Chicago public schools and 4,421 students from Chicago Catholic schools, all of whom participated voluntarily by completing surveys. Results provide evidence of the importance of the social-emotional support that teachers offer students in shaping their feelings about school. Learning is a cognitive and a social-psychological process, and both of these dimensions must be taken into account to maximize academic achievement. Identifying factors that affect students' feelings

about school is important for two reasons: students who like school gain significant social benefits (engagement as well as opportunities to develop social skills, establish friendships, learn respect for adults/peers and engage in cooperative behaviors), which in turn affects academic achievement. Not surprisingly, students were more likely to be attached to school when they perceived that their teachers cared about them, tried to be fair, and praised them Once again, this study underscores the significance of relationships and the impact of relationships on one's academic experience.

Attachment Theory is relevant in the classroom environment and the teacher-student relationship. The behavior and functioning of students in their classrooms and the way teachers develop relationships with students are based on the attachment styles of students. The relationship between teacher and student, mentor and student and school and student are all predictors of academic success. The practices that teachers and parents employ to develop connections with their students resemble the practices that teachers and parents utilize to foster a growth mindset in their students.

Growth Mindset

Secure attachment is known to have benefits in an academic setting. Another psychological factor identified as important to academic settings is adopting a growth mindset. The Implicit Theory of Intelligence refers to fundamental beliefs regarding whether ability and intellect can change. One's mindset can be a growth mindset, a fixed mindset, or decremental mindset.

Decremental mindset, the belief that intelligence can decline, is a relatively new construct that enables a more thorough understanding of growth and fixed mindsets. Lou and Masuda (2017) performed two studies with 407 participants in an effort to measure their mindset and approach towards goals and effort. Students who strongly endorsed decremental theories were more concerned about prevention goals (not losing ability) than promotion goals (improving ability), expected that a lack of effort would lead to the reduction of ability, and were more likely to set goals that focused on maintaining ability. These students also believed that exerting more effort would result in little improvement on standardized test scores, possibly because decremental theorists think that effort is less useful in making learning progress Since decremental mindset is of limited importance with regard to the topic of this dissertation, it will not be discussed further.

Growth Mindset and Its Benefits

Those with a growth mindset (or incremental theory of intelligence) believe that intelligence is malleable (Dweck & Leggett, 1988; Murphy & Dweck, 2010) and can be improved (Dweck, 2008; Dweck & Leggett, 1988; Yeager & Dweck 2012). Individuals with a growth mindset prioritize learning, persistence, and hard work (Dweck, 2008). Growth mindset does not posit that everyone has equal intelligence and recognizes that people possess inherent qualities to different extents but that everyone has the potential to strengthen and build upon their intelligence (Blackwell et al., 2007).

There are many benefits to adopting a growth mindset. Individuals with a growth mindset are concerned with learning goals (Blackwell et al., 2007) and developing ability (or mastery-oriented), which are adaptive attitudes (Dweck &

Leggett, 1988). This approach has an enormous impact on students who face a sustained challenge (Blackwell et al, 2007). An extensive body of literature has shown that believing that abilities are malleable and having a sense of belonging in academic contexts can improve academic outcomes, especially for low-performing students (Beaubien, 2018; Bryan et al., 2012).

Those with a growth mindset have an increased willingness to learn (Lou & Masuda, 2017) and embrace difficult challenges and struggles because they appreciate that requiring effort is not a reflection on their intellectual ability or lack thereof (Dweck, 2008); rather, it is considered an opportunity to further develop learning and mastery. Students who strongly endorse a growth mindset are more promotion-oriented and more likely to set goals to grow and learn (Lou & Masuda, 2017). They are able to overcome setbacks and struggle and are more apt to work through these obstacles and use them as motivation (Blackwell et al., 2007). They are less discouraged by setbacks (Dweck & Leggett, 1988) because they recognize them as part of the process. Those who are mastery-oriented focus on process (effort/strategy), maintain positive self-assessment, and are constructive (Kamins & Dweck, 1999).

Mindset predicts academic achievement, especially when confronted with a challenge (Blackwell et al., 2007). Students with a growth mindset have more academic success than students with a fixed mindset (Dweck, 2008; Claro, Paunesku & Dweck, 2016), and having a growth mindset increases chances of better future academic achievement (Blackwell et al., 2007; Yeager & Dweck, 2012). In a study of 7th graders, the implicit theory of intelligence predicted math achievement over two

years (Blackwell et al., 2007), and in a study of first and second graders, fixed mindset was correlated with lower math achievement, and growth mindset correlated with higher math achievement (Park et al., 2016). Because those with a growth mindset are mastery-oriented, they apply themselves when confronted with challenges (Anderson et al., 2016) and maintain effort under pressure (Dweck & Leggett, 1988, Haimovitz & Dweck, 2016).

Growth mindset allows students to view challenging situations as opportunities to grow and improve (Murphy & Dweck, 2010). Furthermore, students with a growth mindset are more likely to interpret effort as invaluable feedback about the effectiveness of their efforts and strategies. (Dweck & Leggett, 1988; Murphy & Dweck, 2010), which will enable them to further learn from their efforts. They embrace difficult challenges and struggles because they recognize that facing challenges does not reflect intellectual ability or lack thereof (Beaubien, 2018; Cimpian, 2010; Dweck, 2008; Dweck & Leggett, 1988; Sun, 2015;), and they are able to learn from challenging situations (Murphy & Dweck, 2010).

Fixed Mindset and Its Detriments

Those who have a fixed mindset (or entity theory of intelligence) believe that one's intelligence cannot change (Dweck 2008) and is uncontrollable (Dweck & Leggett, 1988; Murphy & Dweck, 2010). Individuals with a fixed mindset prioritize performance, often to the exclusion of mastery and learning, because they believe that performance demonstrates knowledge and competence (Dweck & Leggett, 1988; Lou & Masuda, 2017; Macnamara & Rupani, 2017). Those with fixed mindsets are more apt to be concerned with documenting their ability (Blackwell et al., 2007; Dweck

& Leggett, 1988) and are less focused on growth (Dweck, 2006). This approach is referred to as performance-oriented and is maladaptive (Dweck & Leggett, 1988).

For those with fixed mindsets, failure implies a lack of ability and adequacy (Dweck & Leggett, 1988). Similarly, to those with a fixed mindset, needing to expend effort is perceived as a lack of ability and adequacy, leading to a view that high effort means low ability. In the face of challenge or struggle they are helpless and avoid challenge, which leads to a deterioration of performance (Dweck & Leggett, 1988; Kamins & Dweck, 1999). In addition to struggling with effort and challenge, those with fixed mindsets also have trouble receiving negative feedback because it highlights insecurities and doubt and suggests, to them, a lack of intelligence (Brock & Hundley, 2018; Dweck & Leggett, 1988).

Since those with fixed mindset view challenge and the requiring of effort as an indication of weakness or lower ability, they are less apt to be motivated to put in the necessary effort and become anxious in the face of challenge; consequently, they prefer to choose easy tasks that require less effort (Dweck & Leggett, 1988). Students with a fixed mindset view challenges as an indication that they are weak and not smart (Blackwell et al., 2007).

Students with fixed mindsets do not believe that effort or lack thereof influences ability (Lou & Masuda, 2017). Those with a fixed mindset view negative performance as a measure of ability, which impacts strategies and performance. (Kamins & Dweck, 1999). In the face of challenge, people with fixed mindsets tend to give up or act helpless (Kamins & Dweck, 1999). They also view meeting the challenge as beyond their capabilities (Blackwell et al., 2007).

Resilience and Persistence

Different mindsets will lead to differences in resilience (Blackwell et al., 2007). An individual is said to be resilient if he or she responds positively to challenges (Yeager & Dweck, 2012) or can accomplish "good outcomes in spite of serious threats to adaptation or development" (Masten, 2001, p. 228). "We call "resilient" any behavioral, attributional, or emotional response to an academic or social challenge that is positive and beneficial for development (such as seeking new strategies, putting forth greater effort, or solving conflicts peacefully), and we refer to any response to a challenge that is negative or not beneficial for development (such as helplessness, giving up, cheating, or aggressive retaliation) as not resilient" (Yeager & Dweck, 2012, p. 303). Mindset is a central factor for resilience (Dweck & Leggett, 1988). Those with a fixed mindset are not only more likely to give up, as explained above, but are also less resilient (Brock & Hundley, 2016; Dweck, 2008). Because those with a growth mindset prioritize learning, persistence, and hard work (Dweck, 2008), they are resilient in the face of challenge, receptive to feedback, and utilize better strategies (Dweck & Leggett, 1988).

When students with a fixed mindset attend institutions of higher education, where the workload and demands increase from primary and secondary schools, the students will struggle and feel defeated. Their self-esteem will be impacted and they will not likely share their feelings of inadequacy (Dweck, 2008). The more students are concerned with performance, the more likely they are to act helpless (Dweck & Leggett, 1988), which directly impacts their resilience and ability to persevere. On the other hand, those with a growth mindset will focus on continually increasing ability,

choosing challenges and more difficult work; and persist, knowing that the very act of persisting and developing new strategies will increase their ability and possibility of success (Dweck & Leggett, 1988; Mueller & Dweck, 1998; Pomerantz, Kempner, 2013).

Social and academic integration

In a study of 580 university students, Zander et al. (2018) investigated the relationship between growth mindset and self-efficacy on academic and social integration by collecting information from surveys (self-report) and peer reports. Integration is defined as how connected a student is to other students. Social integration is defined as how likely students will be to ask for nonacademic help (being a friend, helping classmates with a social dilemma), and academic integration is defined as how likely a student will be to ask for academic assistance or collaborate academically with peers. Growth mindset and self-efficacy both contribute towards integration because they both point towards students who can be supporters for peer learning. A student who believes that mindset is malleable believes in his or her peers and their ability to be successful and therefore is more apt to be helpful. Self-reporting of high efficacy is correlated with high self-report of integration because the student believes he/she can be helpful (Zander et al., 2018).

Furthermore, with a growth mindset, there is a focus on the value of the learning process, which spurs students to offer help and ask for help in their process of learning. They believe that asking for help is integral to the learning process and does not show weakness. Academic integration contributes to social integration but not vice versa. The more students saw themselves as helpful, the more integrated they were

by the end of the semester. Academic self-efficacy indirectly led to a higher degree of integration. The more self-efficacious they were, the more students perceived themselves as helpful; the more they perceived themselves as integrated, the more they were actually integrated. The more capable they believed themselves to be, the more they believed in growth mindset and the more integrated they were academically. However, it should be noted that this study only measured short-term effects (Zander et al., 2018).

Growth mindset has benefits in the classroom, both in terms of academic achievement and social integration. Studies above have also highlighted the connection between growth mindset and resilience/persistence. The questions become, "how is growth mindset inculcated, and what can be done to promote a growth mindset?"

Practices

Much research suggests that students can be taught to change their mindsets (Blackwell et al., 2007, Dweck, 2006), but such transmission is complex and not generally direct or immediate.

Some studies have shown that teachers have an enormous capacity to foster mindset, or implicit theory of intelligence, in their students (Blackwell et al., 2007; Park et al., 2016; Sun, 2015). Initially, it was proposed that simply having a teacher with a growth mindset could influence students to be similarly positive and optimistic; however, several studies suggest that the relationship is more complicated (Beaubien, 2018; Haimovitz & Dweck, 2017; Park, et al., 2016; Sun, 2015; Zander et al., 2018).

Beaubien laments that there is no clear guideline, process, or set of steps or practices that one can follow to instill a growth mindset in students (Beaubien, 2018). Teachers can create an environment that impacts students' growth mindsets by encouraging effort and valuing hard work and motivation (Dweck, 2008). Haimovitz and Dweck (2017) examined why mindset is not simply passed from teacher to student but can be successfully transmitted through interventions intended to teach and foster growth mindsets in students (Haimovitz & Dweck, 2017).

One theory that may help to explain the lack of direct transmission is The Theory of Triadic Influence, which describes how individuals can influence the beliefs of others, such as teachers impacting student mindset through various means, including individuals' characteristics and their social interactions within a socio-cultural environment. Interactions between students and teachers in the classroom hold tremendous potential for affecting student mindset (McCutchen, Jones, Carbonneau, & Mueller, 2016).

Teachers' mindsets often dictate their practices. In a study of 21 4th-6th grade teachers in Los Angeles County who volunteered to participate but then were compensated, Stipek, Givvin, Salmon, & MacGyvers (2001) evaluated the relationship between mathematics teachers' practices and their mindsets. Studies have shown that a teacher who has a fixed mindset will inevitably be drawn to exercises and assignments that highlight performance, will likely be impressed and praise students' innate abilities or intelligence, and will be less apt to stress process, effort and learning from mistakes. Teachers with fixed mindsets were also less likely to create opportunities for autonomy because they assume that low-performing students will not

be able to use such opportunities productively On the other hand, teachers with growth mindsets will likely be the opposite, stressing hard work, strategy development, and learning from one's mistakes.

One way that teachers can foster a growth mindset is through leading by example. Clark and Sousa (2018) recommend several approaches that teachers can utilize to encourage growth mindset. First and foremost, teachers should hold themselves to the growth mindset standards. Teachers can model what it means to have a growth mindset. "Definitively unfinished" refers to the belief that there is always room to grow and develop and that growth is always ongoing (Clark & Sousa, 2018). This contrasts with traditional academic workplaces, which have historically been focused on achievement, leading to a fixed mindset (Clark & Sousa, 2018). "Adults' words and deeds appear to tune children into the process of learning or lead them to focus on their abilities and performance, creating conditions that give rise to the growth or fixed mindset in children" (Haimovitz & Dweck, 2017, p. 1855). To help their students achieve a growth mindset, educators need also to view themselves as definitively unfinished educators, primarily defined by developing and learning (especially from challenges) rather than by titles or past successes (Clark & Sousa, 2018).

Educators with a growth mindset model flexibility, high expectations, communication, process orientation, valuing mistakes and empathy, and fostering interdependence (Brock &Hundley, 2018). Teachers can de-stigmatize failures by discussing their struggles and failures both with colleagues and students. The focus of the conversation should be how mistakes and failures lead to growth and

improvement. Doing so will reduce stigma, provide mutual support, and encourage students to learn from others (Clark & Sousa, 2018). Clark and Sousa recommended one hour per week devoted to professional development for teachers to focus on making themselves better rather than comparing themselves to anyone else. Sharing difficulties will lead to changing from fixed to growth workplace mindsets (Clark & Sousa, 2018).

Interventions

Blackwell et al., (2007) studied classroom interventions intended to impact mindset and extended the research by conducting an intervention that measured long-term impact and considered mediators. In this study of 48 7th graders, half of the students received an intervention to teach growth mindset, and motivation and achievement were assessed. The experimental group did show a change in their Implicit Theory of Intelligence after receiving the intervention. The intervention was successful, to the extent that declining grades were reversed, and the impact was long term (2 years). They concluded that the Implicit Theory of Intelligence predicted math achievement over two years; those with a fixed mindset improved less, while those with a growth mindset improved during the same interval. Students with fixed mindsets were found to exhibit less effort and focus on performance goals, negatively impacting their academic achievement. Growth mindset leads to a focus on learning, valuing effort and exhibiting fewer helpless behaviors, which leads to developing better strategies and better grades (higher achievement). The students with a growth mindset were better at coping when faced with setbacks and worked harder. The

intervention was successful, to the extent that declining grades were reversed. Motivation was impacted positively by the intervention (Blackwell, et al., 2007).

Kathy Sun (2015), in an unpublished dissertation, discusses in detail specific teacher practices that impact mindset and how teachers can express beliefs but not necessarily implement these beliefs in practice, which can partially explain why teacher mindsets do not predict student mindsets (Sun, 2015). Teacher mindset does not necessarily align with teacher practice, which can explain why mindset is not successfully transmitted from teacher to student. Sun notes the use of praise as a major contributor of transmitting mindset (Sun, 2015, pg. 32) to students and lists several suggested practices, including communication, promoting trust, and offering support, which mimics recommendations to promote good attachment and relationship between teachers and students

In addition to providing structure and the right types of activities and experiences, teachers also need to convey high standards for performance as well as assumptions that students can rise to the occasion and be successful (Yeager & Dweck, 2012). Several of the strategies that Sun mentioned in her dissertation are directly connected to this idea of conveying trust of the teacher in the students' competence (Sun, 2015).

Yeager and Dweck (2012) investigate what makes interventions effective in terms of promoting growth mindset and underscore the importance of stressing resilience when teaching a growth mindset. When growth mindset is adopted and resilience is explicitly targeted, then interventions are effective and long-lasting. Yeager and Dweck recommend several practices for educators to foster growth

mindsets and improve resilience, including showing how promoting malleable mindsets can impact achievement (Yeager & Dweck, 2012). Taking the time to explain why a teacher is performing an intervention or teaching a task or skill is similar to recommended practices intended to build a relationship with one's students.

In a study of 1,594 high school students from 13 schools in geographically diverse states, Paunesku et al., 2015) evaluated the impact of mindset intervention on academic achievement. Students received two 45-minute web-based computer sessions, including an article describing the brain's ability to grow and reorganize itself as a consequence of hard work and good strategies on challenging tasks. Students then completed two writing exercises, one summarizing the scientific findings in their own words and another in which they read about a discouraged student and used their new learning to describe how they would advise the student. GPA's, psychological measures to assess mindset and observations of students performing a task were assessed. The intervention effect was significant among at-risk students but not among other students. Additionally, the study did not assess long-term effects. Perhaps once work became more difficult, the intervention would have had a long-term impact. Intervention conditions produced a similar increase in GPA for at-risk students: an increase in GPA. Students who received intervention were significantly more likely to earn satisfactory grades in core academic classes after the intervention (Paunesku et al., 2015).

Process-Focused Teaching and Classroom Culture

Students' mindsets are predicted by teachers' practice and whether teachers are themselves oriented towards performance or learning (Park et al., 2016).

Teachers' assignments can be focused on performance or on process/learning, and when teachers are more focused on performance, students are more likely to adopt fixed mindsets at the end of the year (Park et al., 2016). Teachers who focus on the learning process rather than on the abilities of their students have students who are more apt to adopt a growth mindset (Haimovitz & Dweck, 2017).

The type of learning experiences and assignments, as well as the teachers' goals, convey the mindset of the teacher and how the teacher perceives his or her students in terms of fixedness of ability to set the stage for transmitting mindset to students. Similarly, the structure of learning tasks and the goals teachers emphasize also influence students' beliefs about the nature of abilities (as either fixed or malleable) and their motivation (Park et al., 2016; Sun, 2015).

Teachers with fixed mindsets tend to focus on performance rather than learning, which is the primary goal of teachers with growth mindsets. In a study of 424 ethnically and socioeconomically diverse first and second grade students, when the teacher had more learning-oriented practices, the students had a greater rate of growth mindset at the end of the year (Park et al., 2016). When teachers emphasized performance outcomes, students were more likely to endorse a fixed mindset at the end of the year. At the end of the school year, students with fixed mindsets were correlated with lower math achievement, and those with growth mindset were correlated with higher math achievement (Park et al., 2016).

Perhaps even more critical than the mindset of the teacher or the practices of teachers is the classroom culture. One study reported that mindset in the classroom is more predictive than the teacher him or herself (Haimovitz & Dweck, 2017).

Promoting a culture of shared responsibility, where the teacher and student collaborate, may help students view struggles not as their own failures. Teachers can create this culture by teaching towards understanding, providing feedback, allowing students to fix mistakes, identifying the value and importance of effort and struggle, and making sure students know the teacher is collaborating (Haimovitz & Dweck, 2017). It is not enough to teach teachers and parents about growth mindset.

Building on this idea, Beaubien highlights three major tasks for teachers to promote growth mindset: utilize growth mindset language, "using language that focuses students on learning as a process and builds a classroom culture of embracing challenge, learning from mistakes, and focusing on effective strategies for growth" (Beaubien, 2018, p. 43); hold high standards for all students that are specific to each student; and provide effective feedback, including scaffolding the process that will ultimately enable students to identify learning goals, self-regulate learning, and accurately assess current progress.

She also identifies a fourth critical factor—belonging-- as integral to the process of fostering a growth mindset in students, and describes the significance of teacher caring and respect, including making the effort to get to know students, showing students the teacher cares, believing in students and respecting them. Beaubien evaluated eighty-three interventions to impact mindset. She found that the greatest number of intervention resources were available and geared towards college-aged students, and that many of the programs for younger students were only partially based on research and data (20%) and do not account for learning differences nor

necessarily reflect age-appropriate content. This suggests that there might be a lack of research-based interventions for younger children.

Teachers' Use of Language

In addition to the types of assignments and activities teachers choose, the language that they use influences how children think about individuals' abilities and has potential to impact students' mindsets (Heyman, 2008). Heyman studied the impact of labels on 8-12 year-old students by labeling high performers (math whiz/spelling master), and concluded that hearing other students referred to as math whiz or spelling master caused children to think of ability as an entity and innate, and believed these abilities were less susceptible to change even with effort. However, when teachers acknowledged successful students' previous struggles, students were more likely to think about ability as malleable and become optimistic about themselves. Similarly, hearing about how other students were able to change influenced children's reasoning. Children are more likely to have a fixed mindset and consider ability to be innate when the description of performance is continuous over time and less likely to believe that effort can increase ability; but when they are exposed to the changes and struggles of others, they are more likely to consider ability to be malleable and adopt a growth mindset. It is especially important to show challenges of others in order to normalize periods of difficulty and confusion so obstacles are seen as normal (Heyman, 2008).

Praise, when used properly, can have the potential to inspire growth mindset but, when used improperly, can be devastating. Intended to inspire confidence and motivation, praise can have the opposite effect. It is surprising that the simple act of

praising a student for intellect or ability can have such a negative impact on motivation and confidence. The type of praise that teachers give can impact whether students develop a growth or fixed mindset (McCutchen et al., 2016). Unlike in Attachment Theory, as described above, Mindset Theories explore differences in types of praise rather than categorizing all praise monolithically. According to these theories, nuanced differences between types of praise have tremendous impact on students' mindset (Cimpian, 2010; Kamins & Dweck, 1999; Mueller & Dweck, 1998; Park et al., 2016; Pomerantz & Kempner, 2013).

One way to differentiate types of feedback is by categorizing the feedback. Person praise is defined as praising or assessing a trait, such as intelligence or ability (Mueller & Dweck, 1998), and process praise is praising or assessing the manner in which students arrived at their outcome (Kamins & Dweck, 1999), such as hard work (Mueller & Dweck, 1998). Person (also known as trait) feedback is a global assessment of an individual based on specific behavior or performance or product only, whereas process feedback focuses on strategy and effort (Kamins & Dweck, 1999).

Trait/Person judgement -- for example, praising ability or intelligence when children succeed -- sends a message to children that performance reflects ability and that ability is fixed (Mueller & Dweck, 1998). This teaches children about contingent worth and undermines coping with setbacks (Kamins & Dweck, 1999), because when students encounter a challenge, they are less likely to believe they can improve since abilities are fixed (Mueller & Dweck, 1998). Person praise may lead to vulnerability when performance is poor (Kamins & Dweck, 1999) and therefore feedback on

performance, which is similar to person/trait feedback, should be avoided (Brock & Hundley, 2018). Praising for intelligence leads children to have a fixed mindset because when students accustomed to such praise encounter difficulties, they feel inadequate and therefore unintelligent (Cimpian, Arce, Markman & Dweck 2007; Mueller & Dweck, 1998). Person feedback teaches children to measure themselves by their performance and thus fosters more helpless reactions to setbacks (Kamins & Dweck, 1999).

Praising the process, on the other hand, is correlated with encouraging a growth mindset (Brock & Hundley, 2018; Mueller & Dweck, 1998). Feedback that focuses on strategies or effort fosters more mastery-oriented responses to setbacks (Brock & Hundley, 2018; Mueller & Dweck, 1998). In a seminal study by Kamins and Dweck (1999), 67 Kindergarten students role-played various scenarios creating a product with dolls and received either process or person feedback. Though never articulated, students interpreted person praise to mean that they are good when they succeed and bad when they fail. Those who received person criticism created a product that received lower ratings, and they were more likely to view their mistakes as failures, show greater helplessness in the face of setbacks, view their performance and themselves less positively, believe their traits to be stable, hold a sense of contingent self-worth, and have lower persistence. These students have a greater likelihood of choosing performance goal tasks that would make them look smart rather than learning goal tasks that would teach them new skills (Kamins & Dweck, 1999).

Person feedback, even when positive, may contribute to higher vulnerability and lower self-worth. The same study showed that students who received person

feedback displayed lower self-assessments and had more negative affect and lower persistence than those who received process criticism, who used better strategies, expressed greater feelings of self-worth and were more persistent (Kamins & Dweck, 1999).

In a mixed method study of 40 math teachers of grades 6-8 and 3,400 students from four predominantly low-income schools in California, Sun (2015) examined specific teacher practices that impact mindset, and found that teachers who used person praise, publicly praised students for accuracy, and emphasized accuracy and performance rather than learning or productive struggle led to a fixed mindset for students at the end of the year (Sun, 2015). The teachers whose students held more fixed mindset beliefs at the end of the year were more likely to praise successful performance using person praise (Sun, 2015).

Parents and Mindset

While the mindset of a parent is not predictive of a child's mindset, in some studies, parental mindset has been demonstrated to drive parent practices, often determining their priorities and beliefs and how they relate to and interact with their children (Ames & Archer, 1987). For example, parents who have a growth mindset are generally more mastery-oriented and focused on learning and effort rather than on performance, ability and grades (Ames & Archer, 1987). It is not easy for children to deduce their parents' intelligence mindset by themselves, and it is usually not explicitly communicated (Haimovitz & Dweck, 2016). Parents' intelligence mindset is not correlated with children's mindset (Haimovitz & Dweck, 2016).

Whether adults focus on process or ability has been correlated with the mindset of children much more than the mindset of these adults (Haimovitz &Dweck, 2017). In a study of 120 children 8-12 years of age and their mothers, mostly Caucasian, diverse in terms of the mothers' education, and mostly working women, Pomerantz and Kempner (2013) studied the impact of types of parental praise on children's mindsets. The authors found that most of the praise mothers gave was person rather than process praise. Those who used person praise were also likely to process praise. Those who received person praise were more likely to have a fixed mindset six months later and were less likely to prefer challenge.

Process praise promoted fixed mindset and decreased preference for challenge. This study thus showed that parents should refrain from responding to children's success in school with person praise. However, it is less clear exactly what type of praise parents should provide. Process praise did not have positive effects. The study relied on self-reports of the mothers, who are not experts and who could therefore have had trouble differentiating types of praise, and the sample was not diverse. A control group with no praise at all would have helped identify and interpret the impact of person praise more clearly (Pomerantz & Kempner, 2013).

Parental Beliefs and Effects Thereof

Both general fixedness beliefs about their children's intelligence and child-specific domain beliefs have independently predicted parental behavior, with more fixed mindsets associated with performance (Muenks et al., 2015). In a study of 86 parents, mostly European-American women with four-year college degrees, Muenks

et al. (2015) found that the more parents believed in a fixed mindset, the less likely they were to engage in reading and math activities with their children.

Though parental mindset has been shown not to predict the mindset of their children (Ames & Archer, 1987; Haimovitz & Dweck 2016; Haimovitz & Dweck, 2017; Menon, 2016; Muenks et al., 2015), there are several practices that organically emerge from the different mindsets, and those can impact children's mindsets. Menon (2016) studied 373 children from economically disadvantaged backgrounds and found a correlation between parents' opinions about intelligence and students' mindset (Menon, 2016).

Pomerantz and Dong (2006) studied the impact of parents' perceptions of children's competence on academic achievement. In a longitudinal study, they studied 126 8-11-year olds from two schools in the Midwest and their parents who had mixed levels of education, employment, were mostly married and 99% European American. Mothers' perceptions predicted grades, as the more positive the children' perceptions, the higher the grades and the more mastery-oriented the children were one year later. When mothers perceived children's competence negatively, and were more likely to endorse fixed mindsets, the children had the poorest functioning. Children of parents with negative perceptions were less likely to show preference for challenge and interest in learning (Pomerantz & Dong, 2006). Parents with fixed mindsets were less likely to consider the possibility of their children changing if their children were highly competent or not competent (see Shaffer, 2009 on this as well).

Parents convey priorities to their children and can subconsciously impact their children's fixed or growth mindset, depending on if they are more mastery oriented or

performance oriented. Mastery orientation has been shown to predict fixed mindset, and performance orientation has been shown to predict growth mindset (Muenks et al., 2015; Moorman & Pomerantz, 2010; Pomerantz & Dong, 2006). In a study of 114 mostly Caucasian 3rd-5th graders in Illinois, when mothers provided academic assistance and focused on mastery rather than performance, their children tended to have lower expectations for themselves. Children who considered themselves incompetent were particularly sensitive to these practices. This indicated that *how* parents become involved in homework matters, particularly for children with negative perceptions of their competence (Pomerantz et al., 2006).

In a study of 300 participants of a convenience sample of mixed age, Muenks et al., (2015) concluded that the more parents believed in a fixed mindset, the more likely they were to engage in performance-oriented behavior and the less likely they were to engage in mastery-oriented behavior. Differences were observed between mothers and fathers in self-reported parenting behavior (with mothers being more mastery oriented). Moorman and Pomerantz (2010) predicted that parental mindset would impact their involvement with their children and whether they would be performance or mastery oriented. They measured mindset and involvement with children in 79 mostly European American and highly educated working mothers from the Midwest, self-selected from letters from school, and their children in grades 1 and 2. Mothers were paid $20 and children received a small gift. The study found that, as hypothesized, mindset impacts parental involvement. Parents with fixed mindset were more unconstructively involved than growth mindset parents. But mindset did not influence growth mindset parents' constructive involvement. Perhaps there needs to

be further education of how to be constructively involved. Perhaps parents' goals drive their involvement (Moorman & Pomerantz, 2010).

Responses to Failure

Failure mindset describes how one reacts to failure and is more relevant to the mindset that children will adopt than parent mindset. Children can clearly see how their parents react to failure (unlike parental mindset, which is difficult for children to assess) and whether failure is viewed as debilitating or enhancing (Haimovitz & Dweck, 2016). Failure can either be seen as negative, as an indication that one has not fulfilled one's goals and did not perform properly or sufficiently, or it can be seen as an opportunity for improvement, learning from mistakes and growth. Failure can either be perceived as debilitating or as an opportunity to enhance (Haimovitz & Dweck, 2017). The critical time to convey/inspire mindset is when children succeed or fail (Haimovitz & Dweck, 2017). Adults' theory of motivation (whether they believe failure is motivating or demotivating) kicks in during times of success or failure and is a much stronger predictor of children's mindsets (Haimovitz & Dweck, 2017). Haimovitz and Dweck differentiate between intelligence mindset and failure mindset, and they find that the latter predicts what kind of intelligence mindset children will have. Failure mindset is more visible to children and easier for children to perceive, molding and predicting their intelligence mindsets (Haimovitz & Dweck, 2016).

When failure is seen as debilitating and when parents react with anxiety to children's failures, parents send the message to their children that they are concerned with their children's performance rather than their learning. This can lead children to develop a fixed mindset. Parents with a fixed mindset focus on performance and a

lack of ability. They react with pity, doubt, and comfort rather than with learning-oriented behaviors, such as learning from experience, what can be done next time, and how to improve (Haimovitz &Dweck, 2016).

When parents see failure as enhancing, they react with an attitude that promotes learning and improvement, and that conveys to their children that they are focused on their children's learning rather than their performance. This leads children to conclude that intelligence can be built and prompts a growth mindset (Haimovitz & Dweck, 2016). It also supports risk taking, which results in resilience (Haimovitz & Dweck, 2016). One way to inspire children to have a growth mindset is for parents to develop a failure-as-enhancing mindset. If parents can be taught to focus on learning rather than performance and to view failure as motivating rather than discouraging, they will encourage their children to develop a growth mindset, which leads to greater resilience (Haimovitz & Dweck, 2016).

When considering the factors that are correlated with higher likelihood of adopting a growth mindset, they resemble the qualities of caregivers who are most likely to create secure attachments with their children and teachers who develop strong attachments with their students. The research may therefore suggest that having a growth mindset is predicated on having secure attachments. Having a growth mindset, which includes being able to take risks and rebound from failure, mirrors characteristics of children with secure attachments; and having a fixed mindset, which includes avoiding challenges, lacking resilience, and lacking confidence, mirrors characteristics of children with insecure attachments.

Chapter 3: Research Questions and Hypotheses:

The purpose of this study is to examine the connection between students' relationships with their parents, teachers and G-d and the likelihood of developing a growth mindset. Through a thorough review of attachment theory and relationships as well as growth mindset and fixed mindsets (also referred to as Incremental Theory of Intelligence and Entity Theory of Intelligence), I believe that there will be a strong correlation between the two variables.

Overarching question: Are modern orthodox Jewish adolescents with good attachments more likely to adopt a growth mindset?

Part 1: Relationships with Parents

There is a strong correlation between securely attached children whose mothers are sensitive, responsive, accessible, accepting and lovingly available (Bergin & Bergin, 2009; Crain, 2005) and an increased ability to navigate life's experiences and challenges independently (Shaffer, 2009). As such, I hypothesized that children with good relationships with their parents would be more likely to adopt a growth mindset, which is predicated on believing in oneself and prioritizes learning, persistence, and hard work (Dweck, 2008).

Research Question #1:

Are modern orthodox Jewish adolescents who demonstrate good relationships with their parents more likely to adopt a growth mindset?

Hypothesis #1:

Modern Orthodox Jewish adolescents who have a good relationship with their parents are more likely to adopt a growth mindset because they feel secure in their relationships with adults.

Part 2: Relationships with Teachers

Studies suggest that the student-teacher relationship is correlated with positive academic achievements (Bartholomew, 1990; Bergin & Bergin, 2009; Bryan et al., 2012; Creasey, et al., 2009), and mindset is also a predictor of academic achievement (Claro et al., 2016; Dweck, 2008), especially when confronted with a challenge (Blackwell et al., 2007). It would make sense that a relationship with teachers in which effort, response to failure, mutual trust, and care are cornerstones of the relationship should predict a greater likelihood of adopting a growth mindset.

Research Question #2:

Are modern orthodox Jewish adolescents who demonstrate good relationships with their teachers more likely to adopt a growth mindset?

Hypothesis #2:

Modern Orthodox Jewish adolescents who have good relationships with their teachers are more likely to adopt a growth mindset, again, because they feel secure in their relationships with adults and consequently have positive relationships with authority generally, feeling safe and unjudged.

Part 3: Relationship with G-d

An individual's relationship with G-d has been shown to be similar to other relationships in one's life (Ainsworth, 1985; Bowlby, 1969; Eisenberg, 2010; Kelley, 2009). The type of relationship a religious adolescent has with G-d is often predicted by one's relationship with one's parents (Eisenberg 2010; McDonald et al., 2005). However, one can also seek a relationship with G-d to compensate for an insecure relationship with his or her parents (Culver and Melinda, 2017; Kirkpatrick, 1999). Therefore, it would be logical to speculate about whether one's relationship with G-d predicts mindset.

Research Question #3:

Are modern orthodox Jewish adolescents who demonstrate a good relationship with G-d more likely to adopt a growth mindset?

Hypothesis #3:

Because of the focus in Judaism on repentance, personal growth and tzelem elokim (being created in the image of G-d), Modern Orthodox Jewish adolescents who have a good relationship with G-d are more likely to adopt a growth mindset.

In each of these cases, children with secure attachments in all four categories are more likely to believe in their own intrinsic value beyond specific performance measures and that others will continue to value them even if they fail, which leads to greater risk-taking and challenge-acceptance, behaviors correlated with growth mindset.

Chapter 4: Methodology

Participants and Procedure

This study will be a secondary analysis of data previously collected. The dataset was compiled by combining the results of a survey of students at 18 Modern Orthodox High Schools in the United States. At each of the 18 participating schools, the original researchers requested that a minimum of 50 students complete the survey. Researchers sent individualized emails to the principals of the schools during December 2016 and January 2017 to ask for participation. As an incentive, participating schools were offered a personalized summary of their individual data by the end of the 2017-2018 school year. Consent was achieved by allowing parents to opt-out on behalf of their child. There was no penalty for the students who did not participate. Students completed the measure anonymously via Survey Monkey, an online survey platform, so the data was obtained directly from the participants. The students either received a direct link to the survey from their school or they had designated class time to complete the measure. Each school determined which students they would allow to participate. Some schools offered every student the opportunity to participate whereas others limited it to certain students.

Sample

There were 18 participating schools which resulted in a sample of 1341 high school students. Of those who responded, 39% were male, 58% were female and 3% classified themselves as "other." The participants were high school students in Modern Orthodox high schools; 26% were in 9th grade, 15% in 10th grade, 24% in 11th grade and 33% in 12th grade.

Measures

The students had to electronically agree to participate in the survey. If they did, then they advanced to the survey comprising four sections.

1. JewBALE 2.0 (2006)

A survey consisting of 167 questions intended to provide a better understanding of what students believe (BELIEFS) and do (ACTIONS) when it comes to their Judaism. This information was anonymous. Gathering this information aimed to help create more meaningful Jewish educational experiences.

A. Total Beliefs (33 items)
- Divine Providence with Relation to the World (5 items)
- Divine Providence with Relation to the Individual (4 items)
- Fear/Love/Awe of God (6 items)
- Joyful/Meaningful Life (4 items)
- Rabbinic Authority (4 items)
- Divinity/Truth of Torah (3 items)

- Relationship to Israel (4 items)

- Outlook on Secular Studies (3 items)

B. <u>Total Actions (50 items)</u>

- Community Service (2 items)

- Prayer (10 items)

    ○ Blessings (2)

    ○ Formal Prayer (6)

    ○ Informal Prayer (2)

- Holiday Observance (7 items)

- Interpersonal Relations/Personal Character Traits (8 items)

- Kashrut (4 items)

- Study of Torah (4 items)

- Modesty (5 items)

- Sabbath Observance (8 items)

- Gender Specific Questions (3 items)

    ○ Boys (2)

    ○ Girls (1)

2. <u>Demographics (40 items)</u>

- General: name, grade, age, school, location, camp (6 items)

- Family: background, relationships (10 items)

- School: relationship with teachers, connection to learning, grades, tracking (14 items)

- Self-concept (5 items)

- Technology: use of, bullying (4 items)

- Aspiration to be Jewish communal leader (1 item)

3. <u>Socio-Religious Scale of Personal Beliefs</u> (27 items)

- Future Plans (2 items)

- Women (5 items)

- Sexuality and Family Values (4 items)

- Western Values (3 items)

- Judgment (1 item)

- Social Media (2 items)

- Influences (6 items)

- Growth Mindset (2 items)

4. <u>Duke Health Profile</u> (17 items)

- Physical Health (5 items)

- Mental Health (5 items)

- Social Health (5 items)

- Perceived Health (1 item)

- Disability (1 item)

Wherever possible, questions were asked on a seven-point Likert scale, offering the student the chance to choose between 0 (completely disagree) and 6 (completely agree) regarding their commitment to a certain belief or practice. The study concludes with a feedback section, offering students the opportunity to share any concluding thoughts that they had regarding the measure.

The 83 items in the "beliefs and actions" section of the JewBALE 2.0 was based on the original 174 item JewBALE created in 2006. The original JewBALE was designed with input from religious teachers and laypeople. Its validity was supported by a review of ten experts in Jewish law. These experts organized the questions into distinct subscales that represented a certain construct and also eliminated questions that were considered nonessential or that did not clearly fit into one subscale. The JewBALE 2.0 kept all the original subscales, except for one titled 'Personal Character Traits' which was deleted due to its sophisticated nature that was deemed more appropriate for an adult population. No new subscales were added to the belief and actions section, and all original subscales were pared down so as to eliminate redundancies. The JewBALE 2.0 was also sent to ten experts in Jewish law to validate that the questions in each subscale did, in fact, measure one's commitment to that construct. Shortening the belief and action portion of the measure allowed for the expansion of the demographic section, which now includes a robust 40 items, allowing for a better understanding of which factors in an adolescent's home, school and personal life play an interactive role in their religious and spiritual outcomes. Two new sections were added in order to be able to appreciate further nuances in the adolescent's religious experience. A 27-item Socio-Religious Scale of Personal Beliefs was created in order to assess the impact that exposure to secular culture has had on their personal beliefs. This scale was intended to uncover the extent to which there is a conflict between the adolescent's personal and religious beliefs and what impact this has, if any, on their religious practices. Finally, the 17-item Duke Health Profile was included so as to uncover potential relationships among the mental,

physical and social health of an adolescent and his or her religious and spiritual outcomes. Using statistical and clinical rationale, this scale was derived from the 63-item Duke-UNC Health Profile (DUHP), resulting in a short survey which measures ten valid scales.

The questions that are used to measure attachment focus on the quality of relationships between students with their parents, teachers and G-d. In this study, I equate strong relationships with secure attachment. This connection is supported in literature as well (Ainsworth, 1964; Dizon, 1984). I used questions in the survey to establish relationships. Reliability on this scale will be considered and examined. The questions that are used to measure growth mindset are adapted from Carol Dweck's mindset survey (2006). The questions that were chosen were believed to be the most predictive of a growth mindset.

Since this study is merely doing a secondary analysis of anonymized data that was already collected there are no risks to student privacy or in any other way.

The analysis was conducted using SPSS Version 21. Confirmatory factor analysis provided reliability for the new subscales that were created from the pre-existing data. Relationship with parents, relationship with teachers, secure attachment with G-d, and growth mindset were determined to be reliable scales. Pearson product-moment correlations were conducted to determine potential relationships among the variables. Mediation analysis was conducted to determine whether variables were confounding. Hierarchical multiple regression analysis was conducted controlling for possible confounding variables.

The following questions are used as proxies for the various hypotheses:

Variable	Survey Questions that will measure the variable
Relationship with Parents	I have a good relationship with my mother I have a good relationship with my father
Relationship with Teachers	I have a good relationship with my Judaic studies teachers I have a good relationship with my general studies teachers
Relationship with G-d	G-d cares about me G-d hears my prayers G-d has the ability to answer my prayers I fear G-d I love G-d I have personal conversations with God
Growth Mindset	I have a certain amount of intelligence and I can't really do much to change it I have a certain amount of talent and I can't really do much to change it (Questions are adapted from Carol Dweck's Growth Mindset scale (2006)

Confounding Variables	Year in school
	Academic performance
	Gender

Cronbach's alpha was measured to determine the reliability of the "connection to G-d" subscale. It was found to be .94, which implies a very strong reliability.

Relationship with parents has a measured Cronbach's alpha of .66, which is seen as sufficient.

Relationship with Judaic and Secular teacher has a measured Cronbach's alpha of .75.

Chapter 5 Results:

Demographics:

The survey was distributed to a total of 1038 individuals. Of those who responded to gender (1006), 395 (39%) were male and 586 (58%) were female. An additional 25 (3%) stated "other" and were removed from our analysis

All of the students were in high school; 26% were in 9th grade, 15% were in 10th grade, 24% were in 11th grade and 33% were in 12th grade (see Figure 1).The majority (65%) come from Ashkenazi homes, 29% from Sephardi homes and 7% from "other" homes. The overwhelming majority come from Orthodox households (88%) which makes sense since these were Modern Orthodox high schools, 5% come from Conservative, 2% from Reform and 5% from "other".
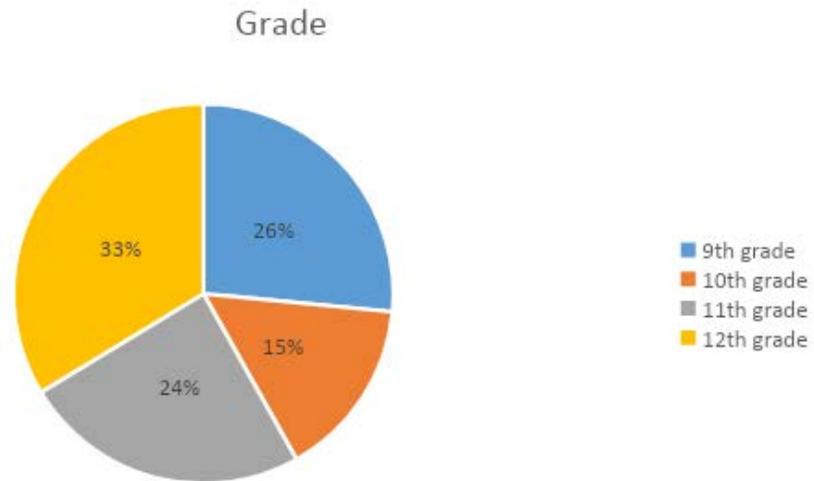
Figure 1. *Percentage breakdown of grade*

The participants were asked to self-report their grades in both Judaic Studies and Secular studies (see Figure 2). Below is a breakdown the responses:
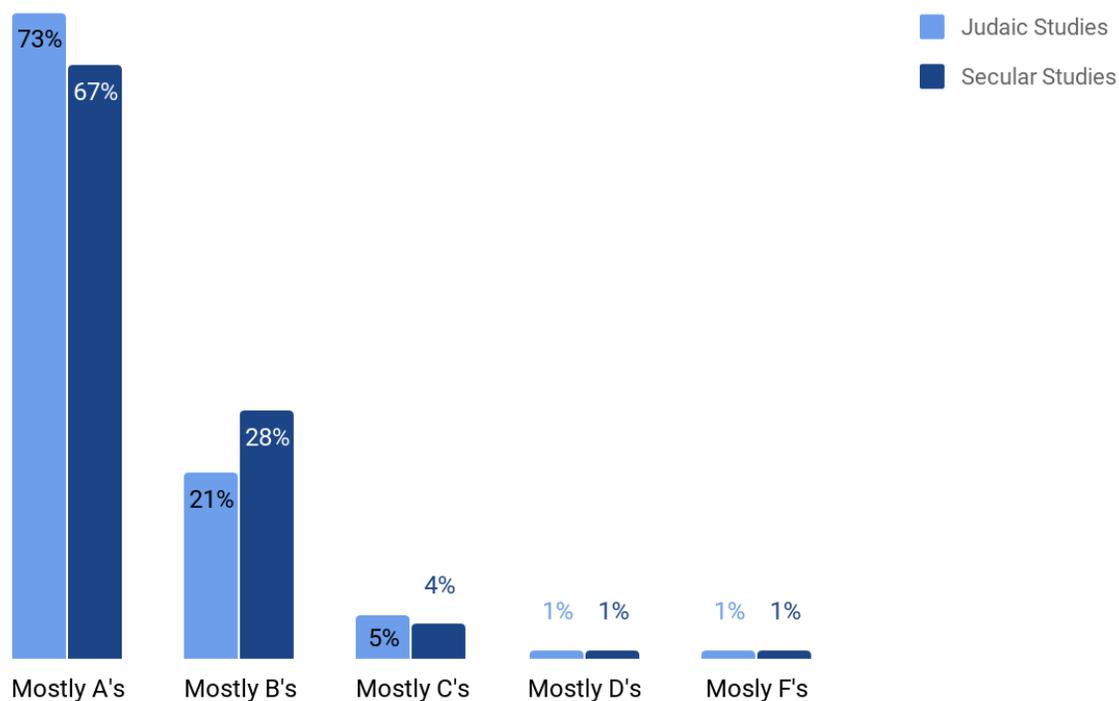
Figure 2. *Percentage breakdown of self-reported grades in Judaic and general studies*

Overall findings:

A correlational analysis was conducted to determine whether there was a relationship between growth mindset and relationship with parents, relationship with Judaic studies teachers, relationship with general studies teachers, and/or relationship with G-d.

There was no significant relationship between connection to G-d and growth mindset or between relationship to parents and growth mindset. There was a weak significant relationship between having a good relationship with Judaic studies teachers and growth mindset, $r(921)=-.08$, $p<.01$ and a weak significant relationship

between having a good relationship with general studies teachers and growth mindset, $r(921)=-.07$, $p<.05$. The greater the relationship between the student and the Judaic or general studies teacher, the greater the growth mindset.

Gender:

The research questions were analyzed by dividing the responses by gender (male and female) to look at whether there were differences between males and females.

A correlational analysis was conducted to determine whether there was a relationship between growth mindset and relationship with parents, relationship with Judaic studies teachers, relationship with general studies teachers, and relationship with G-d based on gender. There were no significant correlations for any of the relationship variables and growth mindset for males. For females, there were no significant relationship between growth mindset and connection with G-d or relationship with parents, but there was a weak significant relationship between growth mindset and relationship with Judaic studies teachers, $r(540)=-.17$, $p<.001$ and a weak significant relationship between growth mindset and relationship with general studies teachers, $r(540)=-.13$, $p<.01$. The better relationship females had with their Judaic studies and General studies teachers, the more growth oriented the person is (see Table 1).

Table 1.
Correlations with growth mindset by gender

Gender	Correlation with Growth Mindset	N
Male		
Connection to G-d	.02	363
Relationship with my mother	-.046	361
Relationship with my father	-.021	360
Relationship with my Judaic studies teacher	-.020	360
Relationship with my General studies teacher	-.028	360
Female		
Connection to G-d	-.01	543
Relationship with my mother	.01	541

Relationship with my father	-.005	540
Relationship with my Judaic studies teacher	-.17***	540
Relationship with my General studies teacher	-.13**	540

**=p<.01; ***=p<.001

Grade:

A correlational analysis was conducted to determine whether there was a relationship between growth mindset and relationship with parents, relationship with Judaic studies teachers, relationship with general studies teachers, and relationship with G-d based on grade.

There was no significant relationship between the connection variables and growth mindset for either 11th or 12th graders. For ninth graders, there was a significant relationship between connection to Judaic studies teacher and growth mindset, r(234)=-.18, p<.01 such that the greater the connection with the Judaic studies teacher, the greater the growth mindset. For 10th graders, there was a significant relationship between connection to General studies teacher and growth mindset,

r(135)=-.29, p<.001, such that the greater the connection to the general studies teacher, the greater the growth mindset of the student (See Table 2).

Table 2.

Grade and relationship between growth mindset

Grade	Connection to Judaic studies teachers	Connection to general studies teachers
9th	-.18**	-.08
10th	-.12	-.29***
11th	-.06	-.10
12th	-.04	.05

Grades in Judaic Studies Classes:

A correlational analysis was conducted to determine whether there was a relationship between growth mindset and relationship with parents, relationship with Judaic studies teachers, relationship with general studies teachers, and relationship with G-d based on grades in Judaic studies classes.

For those who self-reported that they get mostly A's in Judaic studies classes, there was a significant relationship between having a good relationship with Judaic studies teachers and growth mindset, r(672)=-.09, p<.05 and between having a good relationship with General studies teachers and growth mindset, r(672)=-.08, p<.05. Those with stronger relationships with Judaic studies and general studies teachers have higher growth mindset.

For those who self-reported getting mostly B's in Judaic studies classes, there was a significant relationship between connection to Gd and growth mindset, $r(188)=.232$, $p<.01$ such that those with mostly B's, as they have an increased connection to Gd, have decreased growth mindset.

There was no relationship for those with mostly Cs, Ds, and Fs.

Grades in Secular Studies Classes:

A correlational analysis was conducted to determine whether there was a relationship between growth mindset and relationship with parents, relationship with Judaic studies teachers, relationship with general studies teachers, and relationship with G-d based on grades in secular studies classes.

For those who self-reported that they get mostly A's in General studies classes, there was a significant relationship between having a good relationship with Judaic studies teachers and growth mindset, $r(623)=-.11$, $p<.01$ and between having a good relationship with General studies teachers and growth mindset, $r(623)=-.10$, $p<.05$. Those with stronger relationships with Judaic studies and general studies teachers have higher growth mindset.

For those who self-reported getting mostly B's in General studies classes there were no significant relationships.

For those who get mostly C's, D's, or F's there was a significant relationship with connection to God and growth mindset, $r(55)=.28$, $p<.05$, such that the stronger the relationship with G-d, the lower the growth mindset.

A multiple regression analysis was conducted to determine whether having a good relationship with general studies teachers, having a good relationship with Judaic studies teachers, having a good relationship with parents and connection to G-d predicts the level of growth mindset. The overall model was not significant, $R^2=.09$, *ns*.

A hierarchical multiple regression analysis was conducted to determine whether having a good relationship with general studies teachers, having a good relationship with Judaic studies teachers, having a good relationship with parents and connection to G-d predicts the level of growth mindset while controlling for age, gender, Judaic studies grades. and General studies grades. The first step was the demographic variables and the second step was the relationship with teachers, parents, and G-d. Although the demographic variables predicted the amount of growth mindset, there was no significance once the relationship variables were added. R^2 change $=.005$, $F(4, 885)=1.1$, *ns*.

Mediation Analysis

Mediation effect for grades and relationship with Judaic studies teachers and growth mindset:

Mediation analysis was conducted to determine whether Judaic studies grades mediates the correlation between relationship with Judaic studies teachers and growth mindset. There are four steps to mediation according to Barron and Kenny (1986).

1) That the causal variable is correlated to outcome:

A correlation was conducted to determine whether there is a correlation between relationship with Judaic studies teachers and Growth mindset. There was a significant correlation, $r(921)=-.084$, $p<.05$

2) The causal variable is correlated to the mediator:

A correlation was conducted to determine whether there is a correlation between relationship with Judaic studies teachers and Judaic grades. There was a significant correlation, $r(928)=.16$, $p<.001$.

3) Show that the mediator affects the outcome while controlling for the causal variable:

A hierarchical multiple regression analysis was conducted to determine whether Judaic studies grades predict Growth mindset while controlling for relationship with Judaic studies teachers. Relationship with Judaic studies teachers was entered as the first step and Judaic grades was entered as the second step. The model was significant, R^2 change=.020, $F(1,918),=18.97$ $p<.001$. Judaic studies grades predict growth mindset while controlling for relationship with Judaic studies teachers.

4) The effect of X on Y while controlling for M should be zero (complete mediation) or lower (partial mediation):

A hierarchical multiple regression analysis was conducted to determine whether relationship with Judaic studies teachers predicts growth mindset while controlling for Judaic studies grades. Relationship with Judaic studies teachers no longer predicts growth mindset while controlling for Judaic studies grades, R2 Change = .003, F(1,918)=3.13, ns.

Therefore Judaic studies grades is a mediator between relationships with Judaic studies teachers and Growth Mindset (see Figure 3) .
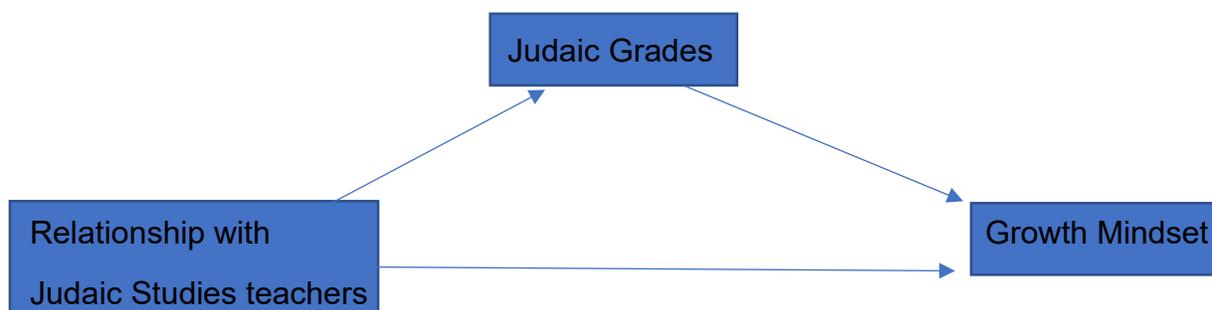

Figure 3. Judaic Studies as a mediator between relationship with Judaic studies teachers and growth mindset.

Mediation effect for grades and relationship with Secular studies teachers:

1) That the causal variable is correlated to outcome:

A correlation was conducted to determine whether there is a correlation between relationship with Secular teachers and Growth mindset. There was a significant relationship, *r*(921)=-.068, *p*<.05

2) The causal variable is correlated to the mediator:

A correlation was conducted to determine whether there is a relationship between relationship with Judaic studies teachers and Judaic studies grades. There was a significant relationship, $r(928)=.19$, $p<.001$.

3) Show that the mediator affects the outcome while controlling for the causal variable:

A hierarchical multiple regression analysis was conducted to determine whether Secular studies grades predict Growth mindset while controlling for relationship with Secular studies teachers. Relationship with Secular studies teachers was entered as the first step and Secular studies grades was entered as the second step. The model was significant, R^2 change$=.030$, $F(1,918),=28.74$ $p<.001$. Secular studies grades predict growth mindset while controlling for relationship with Secular studies teachers.

4) The effect of X on Y while controlling for M should be zero (complete mediation) or lower (partial mediation)

A hierarchical multiple regression analysis was conducted to determine whether relationship with Secular studies teachers predicts growth mindset while controlling for Secular studies grades. Relationship with Secular studies teachers no longer predicts growth mindset while controlling for Secular studies grades, R^2 Change $= .001$, $F(1,918)=.854$, ns.

Therefore Secular studies grades is a mediator between relationship with Secular studies teachers and Growth Mindset (See Figure 4).
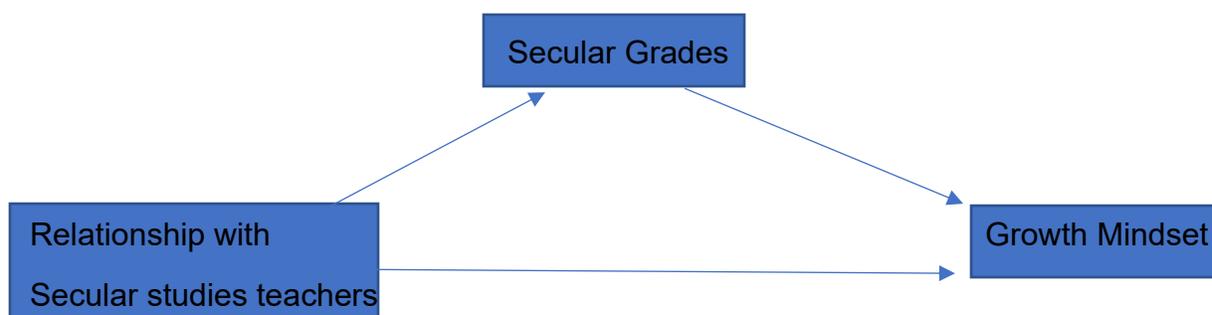
Figure 4. Secular Studies grades as a mediator between relationship with Secular studies teachers and growth mindset.

Moderation Analysis:

Age/Grade in school was considered as a moderator between relationship with Judaic studies teachers and Growth mindset and relationship with Secular studies teachers and Growth mindset.

To run moderation analysis both grade and relationship with Judaic studies teachers were centered. Then the interaction of the two (grade and relationship with Judaic studies teachers) was calculated.

A multiple regression analysis was conducted looking at whether relationship with Judaic studies teachers and grade level predict growth mindset. The model was significant, $R^2=.01$, $F(2,890)=4.87$, $p<.05$.

Then another multiple regression analysis was conducted looking at whether the relationship with Judaic studies teachers, grade level, and the interaction between the two predict growth mindset. The model was also significant, $R^2=.014$, $F(3,889)=4.06$, $p<.01$. Since the significance is stronger, there is slight moderation (see Figure 5).
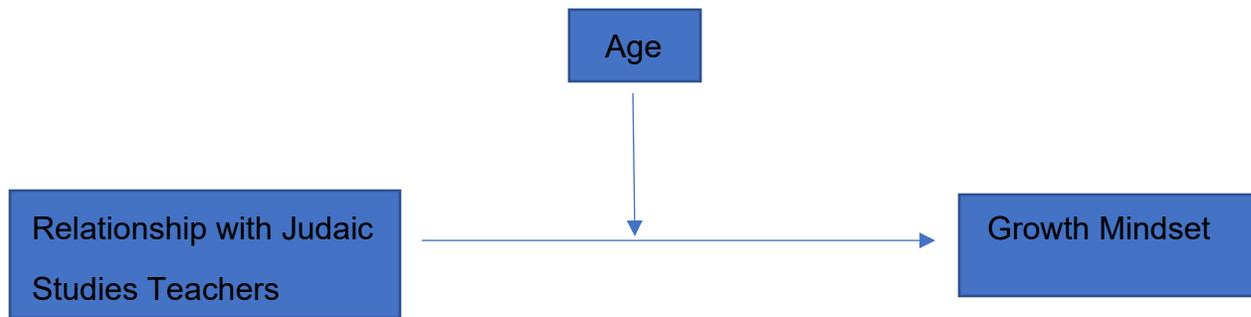
Figure 5. Age as a partial moderator between relationship with Judaic studies teachers and growth mindset.

Grade as a moderator for Secular Studies and Growth Mindset

To run moderation analysis, both grade and relationship with Secular studies teachers were centered. Then the interaction of the two (grade and relationship with Secular studies teachers) was calculated.

A multiple regression analysis was conducted looking at whether relationship with Secular studies teachers and grade level predict growth mindset. The model was not significant, $R^2=.006$, $F(2,890)=2.64$, ns.

An additional multiple regression analysis was conducted looking at whether the relationship with Secular studies teachers, grade level, and the interaction between the two predict growth mindset. The model was significant, $R^2=.014$, $F(3,889)=3.19$, $p<.05$. Since there is now significance where there was not before, this indicates that grade level moderates the correlation between relationship with Secular studies teachers and growth mindset (See Figure 6).
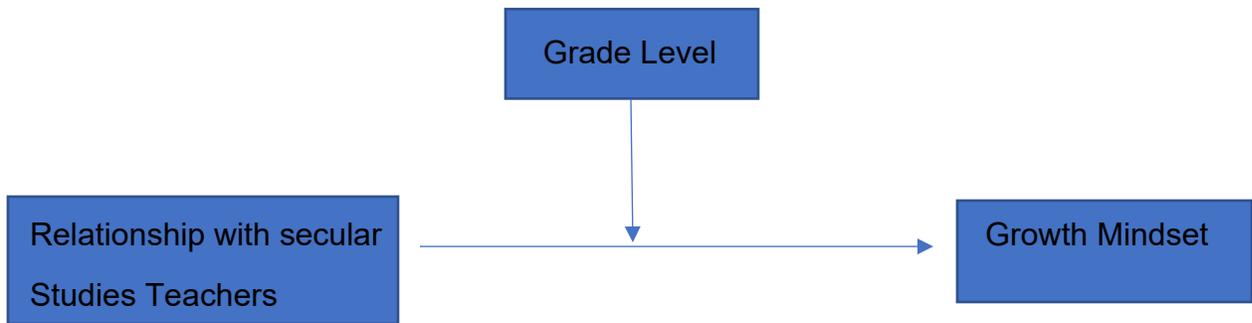
Figure 6. Grade level as a partial moderator between relationship with secular studies teachers and growth mindset.

Chapter 6: Discussion

This study aimed to investigate the correlation between the quality of relationships in one's life (specifically relationships with parents, relationship with Judaic Studies and General Studies teachers, and relationship with G-d, as well as the synthesis of these relationships) and the likelihood of adopting a growth mindset. Additional variables that were considered in terms of mediators and potential predictors were gender, grade, and academic performance. This chapter examines and interprets the data, discusses limitations, suggests future areas of research and makes recommendations for parents and teachers.

Data Interpretation:

There is a strong correlation between securely attached children whose mothers are sensitive, responsive, accessible, accepting and lovingly available (Bergin & Bergin, 2009; Crain, 2005) and an increased ability to navigate life's experiences and challenges independently (Shaffer, 2009). As such, I hypothesized that these children would be more likely to adopt a growth mindset, which is predicated on believing in oneself and prioritizes learning, persistence, and hard work (Dweck, 2008)

Overarching research question: Are adolescents with good relationships more likely to adopt a growth mindset?

Adolescents with secure attachment patterns were not more likely to adopt a growth mindset. Overall, there was no clear indication that a relationship exists between adolescents with secure attachment patterns and likelihood of adopting a growth mindset, except in specific cases. There was no connection found between relationships with parents and mindset. There was, however, a connection between relationship with teachers and growth mindset: the greater the relationship, the greater the growth mindset. There was little correlation between relationship with G-d and growth mindset, except in students self-reported earning mostly Bs; for those students, it was found that the greater the relationship with G-d, the less likely students were to have a growth mindset.

These findings enable me to understand the distinction between attachment theory and relationships in a new light. Secure attachment is predicated on having parents who are loving, sensitive and available (Bergin & Bergin, 2009; Crain, 2005), as an impetus for a child to be more independent (Shaffer, 2009), but is not necessarily correlated with mindset and is not necessarily connected to specific behaviors that are tied to relationship, such as manner in which they view failure (Haimovitz & Dweck 2016), or praise (Haimovitz & Dweck, 2017; Pomerantz & Kempner, 2013) and encourage effort (Kamins & Dweck, 1999), which are predictors of growth mindset.

Research Question #1: Are Modern Orthodox Jewish adolescents who demonstrate a good relationship with their parents more likely to adopt a growth mindset? <u>*Hypothesis #1:*</u> *Modern Orthodox Jewish adolescents who have a good*

relationship with their parents are more likely to adopt a growth mindset because they feel secure in their relationships with adults.

There was no connection between relationships with one's parents and the likelihood of adopting a growth mindset, and the data does not support the hypothesis. Research (Haimovitz & Dweck, 2016; Moorman & Pomerantz, 2010; Muenks et al, 2015; Pomerantz et al., 2006;) would suggest that being in a supportive relationship where parents are focused on learning and growing would encourage a growth mindset. There are several potential explanations for the lack of expected relationship. For example, being in a supportive relationship does not automatically imply a focus on learning and growing, which is a predictor of growth mindset (Moorman & Pomerantz, 2010; Muenks et. al., 2015; Pomerantz et al., 2006). Similarly, having a good relationship does not imply parents' response to failure, also significantly correlated with likelihood of adopting a growth mindset.(Haimovitz & Dweck, 2016; Haimovitz & Dweck, 2017; Kamins & Dweck, 1999) The questions in the study were quite general, and perhaps data responding to more specific aspects of relationship and growth mindset would have shown a correlation. Questions that focused specifically on the manner in which one's parents react to setbacks and challenges and, their approach to expenditure of effort and focus on learning versus focus on performance perhaps would have yielded a stronger correlation.

Research Question #2: Are Modern Orthodox Jewish adolescents who demonstrate good relationships with their teachers more likely to adopt a growth mindset? Hypothesis #2: Modern Orthodox Jewish adolescents who have a good relationship

with their teachers are more likely to adopt a growth mindset, again, because they feel
secure in their relationships with adults and consequently have positive relationships
with authority generally, feeling safe and unjudged.

I hypothesized that this relationship would exist primarily because studies suggest that the student-teacher relationship is correlated with positive academic achievements (Bartholomew, 1990; Bergin & Bergin, 2009; Bryan et al., 2012; Creasey, Jarvis & Gadke, 2009), and because mindset predicts academic achievement (Dweck, 2008; Claro et al., 2016), especially when confronted with a challenge (Blackwell et al., 2007). Therefore, a relationship with teachers in which effort, response to failure, and mutual trust and care were cornerstones of the relationship should predict a greater likelihood of adopting a growth mindset. This hypothesis was partially supported by the data.

There was a correlation between one's relationship with teachers and growth mindset, such that the better the relationship, the greater the growth mindset. The relationship was similar between Judaic and general studies teachers, but slightly greater with Judaic studies teachers.

With males, there was no correlation between relationship with teachers and growth mindset. However, with females, there was a significant correlation between relationship with Judaic studies and general studies teachers and growth mindset, such that the greater the relationship, the greater the growth mindset.

Grade:

Grade in school was a moderating factor. The relationship between the variables depends on the student's year in high school. When age is distinguished, there is a stronger connection between relationship with teachers and likelihood of adopting a growth mindset in younger grades.

9th grade: There was a significant relationship between connection to Judaic studies teachers and growth mindset, such that the greater the connection with the Judaic studies teacher, the greater the growth mindset.

10th grade: There was a significant relationship between connection to general studies teachers and growth mindset, such that the greater the connection to the general studies teacher, the greater the growth mindset of the student.

11th grade: There was no significant relationship between the connection variables and growth mindset.

12th grade: There was no significant relationship between the connection variables and growth mindset.

Perhaps the transition in ninth grade when students are adjusting to a new environment and undergoing a major change lends itself to a more flexible mindset. Perhaps adjusting to high school is predicated on students relying on teachers, considering teachers as role models. By the time students reach 11th and 12 grade, they are more independent, and their mindset is independent of their relationships with teachers. Heather Davis, in a study examining the impact of student-teachers relationships, noted that as students transition through their teenage years, they become increasingly less concerned with their relationships with adults and more

focused on peer relationships (Davis, 2003) and the student-teacher relationship is less meaningful and influential for older high school students (Hughes, 2012). The findings of this study align with that construct, as the relationship seems to be more meaningful to freshmen and sophomores than to juniors and seniors. In her dissertation, Lori Short suggests that the nature of the teacher-student relationship is more impactful on freshmen and sophomores, as older students are more mature and likely correlate their academic performance with their actions rather than on external factors such as the teacher or the relationship with the teacher (Short, 2017).

In terms of academic performance, grades were found to be a mediator between relationship with teachers and likelihood of adopting a growth mindset, meaning that they explain the relationship. Having a strong relationship with teachers leads to better grades, which leads to a higher rate of adopting a growth mindset. The correlation between relationship to teacher and growth mindset was observed among students who reported earning mostly A's. For students earning mostly A's, there was a significant correlation between having a good relationship with teachers and growth mindset, such that the stronger the relationship, the greater the growth mindset. This was not apparent among students who self-reported earning mostly B's or lower. This data aligns with research that supports that a greater growth mindset will result in greater academic achievement. It is also in line with research that suggests that academic performance is tied to student-teacher relationship (Short, 2017). In a study that evaluated the impact of teacher-student relationship on instruction, "the classroom climate must be one of mutual trust in order for students to be engaged" (White, 2016, p. 39), which correlates with a greater growth mindset, as trust is integral

to developing a growth mindset. Since it has been suggested that students' academic behaviors have been found to be emotional reactions to teachers' actions and behaviors (Wilkins, 2014), it is imperative that attention be placed on these behaviors which will shape the student-teacher relationship. Another study goes so far as to suggest that with improved teacher- student relationships, the students in the study would have experienced greater academic achievement (Guerrero, 2016).and the focus on the social-emotional component of teaching is intricately connected to the likelihood of developing a growth mindset.

Research Question #3: Are Modern Orthodox Jewish adolescents who demonstrate a good relationship with G-d more likely to adopt a growth mindset? Hypothesis #3: Because of the focus in Judaism on repentance, personal growth and tzelem elokim (being created in the image of G-d), Modern Orthodox Jewish adolescents who have a good relationship with G-d are more likely to adopt a growth mindset.

There was no correlation between relationships with G-d and growth mindset except for among students who self-reported earning mostly B's. For students earning mostly B's, there was a significant relationship between connection to G-d and decreased growth mindset. This was a surprising finding and difficult to explain. Perhaps it is more likely for an average student to simply fall into having a fixed mindset. Maybe an average student has the mentality that G-d created me just as I am. Perhaps those who believe in G-d believe that G-d provides what He wants, and

if He wants a student to have intelligence, He will give it to that student, and if not, then He will not. This concept is supported by Hondanero (2019), who found that mindset among children was significantly predicted by prior science academic achievement.Similarly, Cody (2019) found that non-gifted students are less likely to display grit, which is associated with growth mindset among non-gifted students. This idea, however, contradicts other research that has found that students who earn high grades and who have received praise are likely to adopt a fixed mindset (Haimovitz & Dweck, 2017). This finding is difficult to explain and further research is necessary.

<u>Recommendations for schools and teachers:</u>

The findings of this study indicate that there is a connection between the relationship with one's teachers and the likelihood of developing a growth mindset. Schools and teachers can employ various techniques and adopt practices designed to deepen relationships between teachers and students, thereby encouraging their students to develop growth mindsets.

In order to enable teachers to inspire their students to develop growth mindsets, it would behoove schools to familiarize their teachers with the overall concept of growth mindset and its benefits. Teachers should be educated about the factors that can influence their students to adopt a growth mindset and then learn techniques and strategies to accomplish this important task.

The focus of teaching has to be on establishing relationships, specifically with a focus on factors of relationship that will stimulate the development of growth

mindset. These factors include process-focused teaching, careful use of language and proper use of praise, and viewing failure and expenditure of effort as ways to learn and grow. We should maximize the opportunities that exist in the rich subject matter in both Judaic studies and general studies to increase emphasis on building and maintaining relationships.

There are several practices and interventions that I recommend teachers utilize in order to promote growth mindset in students. In her unpublished dissertation, Kathy Sun (2015) recommends several practices intended to do so, including communication, promoting trust, and offering support, which mimic recommendations to promote good attachment and relationship between teachers and students (Sun, 2015). Specifics include responding to failure as an opportunity to learn and grow; creating a classroom culture of learning as a process; embracing challenge; providing structure and clear goals; establishing a positive psychological climate; supporting risk-taking; promoting trust; conveying high expectations; and focusing on strategy rather than outcome. Yeager and Dweck (2012), in a study that examines teachers' abilities to promote a growth mindset, stress resilience as a key factor of growth mindset and offer several strategies to affect the mindset of students. Some of their recommendations include summarizing theories and how they relate to resilience and achievement. Hansen, 2018, examines teacher-student relationships and identifies several common denominators to effectively build quality student-teacher relationships. They include having high expectations, praising the process, and conveying care and empathy for students.

In addition to practices intended to promote growth mindset, I recommend that schools place greater emphasis on building good teacher-student relationships, as that has been seen to have a significant impact on students. When a collaborative approach to relationships, including teacher, student, and family involvement, is emphasized, students report feeling more secure and supported in school (Amatea, Daniels, Bringman, & Vandiver, 2004). An inherent component of this relationship is that teachers must convey their belief that their students can succeed (Kleinman, 2018). In her dissertation, Miller Ricketts (2019) examines the way students perceive teacher care, and finds that at-risk students are less likely to perceive teachers as caring. She recommends training to advance caring teacher practices In another study, teacher caring and support and teacher press for academic thought were significantly correlated with student engagement (Berman-Young, 2014), highlighting the importance of creating an environment where student teacher relationship is of paramount importance.

Limitations:

This study used data from the JewBALE 2.0, a pre-existing survey. The survey was not particularly aiming to measure relationships or growth mindset and included questions pertaining to many aspects of Modern Orthodox adolescence. This study hypothesis would have been more precise had there been more questions pertaining to specific aspects of the nature of relationships, such as response to failure; views about effort, types, and frequency of praise; and questions regarding the frequency of conversations and the nature of conversations with parents and teachers. In addition,

this study would have benefitted from a more thorough measurement of growth mindset, as some of Dweck's questions in the mindset survey were not included (Dweck, 2006).

In my dissertation, I compared attachment theory and relationships, but maybe I should have only written about relationships. The hypothesis and research questions in this study were about relationships with parents, teachers, and G-d, but my research was primarily about attachment theory. I naively assumed that having a "good" or" secure" relationship meant something distinct and narrow. To me, it included parents and teachers similarly focusing on aspects of relationship such as process rather than performance and viewing challenge, setback and effort as vehicles to learn and grow. What I learned through my research journey is that there are many definitions of what it means to have a good relationship with one's parents and teachers, and they do not necessarily mimic the same factors as my interpretation. The Attachment Theory literature highlights qualities such as being accepting and loving (Crain, 2005), responsive (Shaffer, 2009), and close (Erickson & Philips, 2012) which are important qualities but was not explicitly measured in this dissertation. I had believed that there was enough overlap between the concepts of relationship and attachment and that there were proxies in the JewBALE survey for relationships, but I now realize that it would have been more worthwhile to measure each element of attachment theory. I encourage people in the future to study the correlations between relationships in one's life and mindsets with more deep and explicit questions.

Another consideration is the wording of the questions pertaining to G-d. There was no question that explicitly asked students if they have a good relationship with G-

d. Therefore, I chose questions that I thought were representative of a relationship with G-d. I confirmed my sample with a panel of Rabbis who have expertise in this arena. Although, it is important to consider that the formulation of the questions were such that they did not reflect the experiential relationship. It is possible that perhaps due the way that the questions were framed, the students were not able to think critically about their relationship with G-d. Maybe they would have thought about it differently if the questions were worded differently.

There are additional limitations to the survey. The data in the survey was exclusively obtained from the self-reporting of students. Had there been opportunities to survey parents and teachers, perhaps the correlation would have been more evident, particularly if the study could have obtained and compared adolescents' views of effort and failure with those of their parents and teachers. Another limitation is that, although the data does significantly support some of the hypotheses, the correlations that exist are weak. Lastly, the students who completed the survey were all Modern Orthodox day school students, which is a very specific limited and distinct population.

Future areas of research:

Potential future areas of study include creating surveys that account for variables set to measure specific elements of relationship with one's parents, teachers, and G-d, and the connection to the likelihood of adopting a growth mindset. I would include the following questions:

When your parents/teachers praise you, do they praise process or outcome?

Do your parents/teachers view failure as an opportunity to grow?

Do your parents/teachers encourage you to take on challenges that will require you to work hard and expend considerable effort?

Do your parents/teachers value putting forth effort?

Does the academic content drive your relationships with teachers?

Do the interactions outside the classroom drive your relationships with teachers?

Does the extent to which you view your teachers as role models drive your relationships with teachers?

In addition to including questions aimed at nuances within types of relationships, I would also add the missing questions from Carol Dweck's survey (2006), namely: You can learn new things but you can't really change how intelligent you are, no matter how much intelligence you have, you can always change quite a bit, and you can always substantially change how intelligent you are (Dweck, 2006). Adding these questions would provide a deeper and more accurate portrayal of growth mindset.

In addition, a longitudinal survey would shed more light on the nature of relationships, how they evolve and how that evolution might impact growth mindset. For example, the type of teacher praise (Cimpian, 2010; Kamins & Dweck, 1999; McCutchen et al., 2016; Mueller & Dweck, 1998; Park et al., 2016; Pomerantz & Kempner, 2013) and parent praise (Haimovitz & Dweck, 2016; Haimovitz & Dweck, 2017; Pomerantz & Kempner, 2013) as well as teachers' response to failure (Brock & Hundley, 2018; Clark & Sousa, 2018), parents' response to failure (Haimovitz & Dweck, 2016) and trust in one's teachers (Dweck & Leggett, 1988) were shown to be critical to the development of a growth mindset and are also factors of attachment

(Creasy, 2009; Hallinan, 2008; Shaffer, 2009). If those areas were examined more closely, perhaps that would provide a more specific measure of the intersection between relationships and growth mindset.

Future research could also expand the demographic beyond Modern Orthodox Jewish adolescents. The questions and research in this study impact all students across regions, religions and other demographics, so a broader-ranging study would help researchers understand how the nature and quality of one's relationships impact growth mindset.

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