

THE INTERSECTION BETWEEN SELF-DETERMINATION AND MOTIVATION OF
STUDENTS WITH DISABILITIES: FROM STUDENT AND TEACHER PERSPECTIVES

Kris A. Zorigian

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Approved by:

Melissa Shaffer Miller, Ph.D.

Deborah Eaker-Rich, Ph.D.

Jeffrey A. Greene, Ph.D.

Erik W. Carter, Ph.D.

Catherine Scott, Ph.D.

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ABSTRACT

KRIS ZORIGIAN: The Intersection Between Self-Determination and Motivation of Students with Disabilities: From Student and Teacher Perspectives
(Under the direction of Dr. Melissa Shaffer Miller)

Students with disabilities typically suffer from low motivation (Adelman & Taylor, 1983, 1990) and poor self-determined capacity and opportunity (Carter et al., 2008). The purpose of this study was to examine the potential relation between the motivation and self-determined capacity and opportunity of students with disabilities. This study examined the relation between the motivation and self-determined behaviors of 32 adolescent middle and high school students with disabilities. Differences between ratings of teachers in different content areas as well as the impact student motivation and self-determined capacity and opportunity have on academic performance were assessed. Findings showed statistically significant correlations between motivation and self-determined capacity and opportunity amongst student and teacher perspectives. No difference between ratings of teachers from different content areas was detected in either motivation or self-determined capacity. Finally, academic performance was not predicted by student motivation or self-determined capacity and opportunity. Results and implications for special education researchers and practitioners are discussed.

DEDICATION

To my family
This would not have happened had it not been for your love and support

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LIST OF DEFINITIONS

Motivation:

Students' approach to academics including their initiative, goal-directed behavior, acceptance of responsibility and their preference for challenging tasks (DiPerna & Elliott, 2000)

Achievement motivation:

The motive to achieve and avoid failure as influenced by an expressed level of aspiration and willingness to put forth effort and persist in an activity (Atkinson & Feather, 1966)

Intrinsic Motivation:

Students' performance of educational activities for personal sake, in which pleasure is inherent in the activity itself (Gottfried, Fleming, & Gottfried, 2001)

Extrinsic Motivation:

Students' dependence, and reliance upon others or rewards for inspiration during educational activities (Clinkenbeard, 1996)

Mastery Goal Orientation:

Students who are interested in mastering or learning the material for their own self-improvement (Eccles, 2004)

Performance Goal Orientation:

Students who are interested in learning the material only to outperform other students in their class (Eccles, 2004)

Autonomous Motivation:

Students who experience volition or self-endorsement regarding their actions taken during problem solving (Deci & Ryan, 2008)

Controlled Motivation:

Students who are externally regulated by pressures to think, feel, and behave in certain ways during problem solving (Deci & Ryan, 2008)

Self-Determination:

The capacity and opportunity of students to know and express their own needs, interests and abilities (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994)

Capacity to Self-Determine:

Students' knowledge, abilities, and perceptions that enable them to be self-determined and feel good about it (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994)

Opportunity to Self-Determine:

Students' chances to use their knowledge and abilities (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994)

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CHAPTER ONE

Introduction

The No Child Left Behind Act (2001) has brought about not only unprecedented education reform over the past decade but has raised public awareness of poor student performance and failing public schools, especially for those in lower-income neighborhoods. Based on data collected on student performance, the problem has been magnified further for students with disabilities, especially when considering that previous studies may have seriously underestimated the dropout rate of high school students (Swanson, 2004). For many families with children who need individualized education, the failure of our public schools to adequately prepare every student to not only graduate but to prepare them for a career and independent living comes as no surprise. According to the National Council on Disability (NCD, 2004), when compared to their typically developing peers, students with disabilities experience more academic challenges related to graduation and job acquisition. The rates of high school graduation, of subsequent entry into postsecondary education, and of successful career entry are significantly lower for students with disabilities than for students without disabilities (NCD, 2004). In fact, it is estimated that more than 40 percent of adolescents and young adults with disabilities do not attain a high school diploma at the end of high school, making dropout rates for youth with disabilities three to four times higher than their non-disabled peers (NCD, 2004).

Many researchers have turned their attention toward investigating the development of students from childhood into adolescence and then into adulthood, as the developmental

needs of students have become an increasingly prominent topic among researchers in the field of education (Blackwell, Trzesniewski, & Dweck, 2007; Eccles, Midgley, Wigfield, Buchanan, Reuman, Flanagan, & Mac Iver, 1993; Roeser, Eccles, & Freedman-Doan, 1999). Researchers recognize the fact that students in middle school and high school experience an array of changes across emotional, physical, and social domains. Not only are their physical bodies changing, but social interactions are becoming more complex, and the adequacy of their cognitive development is predictive of their success in society (Eccles & Roeser, 2011). These changes have a powerful effect on typically developing students, and these physical, social, and cognitive changes have an even more pronounced impact on students with disabilities (Pierson, Carter, Lane, & Glaeser, 2008). As a result, new research on the development of students with disabilities, from childhood through adolescence and the transition into adulthood, has been conducted over the past 20 years. Research in these areas is vital for understanding the atypical development of students with disabilities, with a goal of best preparing them for transitions in their lives. The critical changes these students experience may include transitioning into high school or college, entering the workforce, and eventually moving toward more independent living.

Exemplified in the research on student development, the literature has shown that adolescents or secondary students with disabilities typically perceive themselves differently from their typically developing peers when it comes to the development of their academic identities (Elbaum & Vaughn, 2001, 2003; Lackaye, Margalit, Ziv, & Ziman, 2006; Polychroni, Koukoura, & Anagnostou, 2006; Zeleke, 2004). Two vital components to the development of these academic identities are their motivation and their self-determination. Motivation is commonly defined as the process of starting and continuing goal-directed

activity (Schunk, Pintrich, & Meece, 2008) and the desire to achieve and avoid failure as influenced by an expressed level of aspiration and willingness to put forth effort and persist in an activity (Atkinson & Feather, 1966). For the purposes of this paper and in alignment with the measure used, motivation reflects students' approach to academics including their initiative, goal-directed behavior, acceptance of responsibility and their preference for challenging tasks (DiPerna & Elliott, 2000). Self-determination is commonly defined as the combination of skills, beliefs, and general knowledge that enable a student to engage in self-regulated, goal-directed, and autonomous behaviors (Wehmeyer, 1992). For the purposes of this study and in alignment with the measure used, self-determination reflects the capacity and opportunity of students to know and express their own needs, interests and abilities (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994).

Both student motivation (Adelman & Taylor, 1983; DiPerna, 2004, 2008) and self-determination (Carter, Lane, Pierson, & Stang, 2008; Field, 1996; Wehmeyer et al., 2012) have been linked to academic achievement as well as to successful transitioning for students with disabilities. Although these associations seem logical, no empirical studies can be found that investigate the relation of these two constructs within a population of secondary students with disabilities. Therefore, researchers seek to bridge this gap in the literature by investigating the relation between motivation and self-determined behaviors of adolescent students with disabilities. Because adolescent students going through middle school and high school experience so many different changes in academic, social, physical, and cognitive domains, student transitioning should be of particular concern for this population.

Issues with Transitions during Adolescence

For the purposes of this study, transitions can be described as the process of a student

moving from one educational environment to another, from one class to another, or from one life phase to another (i.e., high school to independent adulthood) (Gargiulo, 2012). In general, typically or atypically developing students tend to experience significant difficulties with transitions during their academic years (Roeser & Eccles, 1998; Roeser, Eccles, & Sameroff, 2000). This observation is even more apparent for students with disabilities (Carter, Lane, Pierson, & Glaeser, 2006; Roeser, Eccles, & Freedman-Doan, 1999).

Transitions occur throughout students' lives and are experienced in a variety of forms. Some of the most influential transitions that students experience are those during adolescence when students move from elementary school to middle school (Farmer et al., 2010; Theriot & Dupper, 2010), from middle school to high school (Estell et al., 2007), from high school to college (Sitlington, 2003), and from high school to the workforce (Cheney, 2010). Although many students transition without major struggle, many students with disabilities experience disturbances such as difficulty adjusting to new academic settings (Dente & Coles, 2012), poor attendance (Hoppe, 2004), and decreased motivation, which can lead to achievement-related outcomes (Seidman, Aber, & French, 2004). These transitions occurring during adolescence are influenced by a variety of factors, both internal and external to the individual. External factors, such as a family relocating or changing schools, can have an impact on the transitions of students with disabilities, but this study focuses on the internal factors that contribute to the adjustment of transitions, particularly, motivation and self-determined behaviors for students with disabilities.

Both motivation (Hoppe, 2004; Korbel, McGuire, Baneijee, & Saunders, 2011) and self-determination capacity and opportunity (Carter et al., 2008) have been linked to transitions for students with disabilities. Research suggests transitions contribute to a general

decline in student motivation related to academics (Seidman, Aber, & French, 2004). Students who lack the motivation to adjust to different transitions often have negative experiences. Additionally, research suggests an emphasis for supporting self-determined capacity and opportunity is particularly salient during transitional periods (Carter et al., 2008; Carter, Sisco, & Lane, 2011; Pierson, Carter, Lane, & Glaeser, 2008). Because many transitions occur simultaneously for students during the middle school and high school years, having a better understanding of the levels of self-determination of middle school and high school students with disabilities can provide valuable information toward fostering healthy adjustment during these transitions. It is during these times in particular where self-determined capacity and opportunity help launch students into young adulthood (Pierson et al., 2008). The literature shows the extent to which self-determined capacity and opportunity and increased motivation can have a significant impact on the academic and lifestyle outcomes for students across the age span from the elementary school years (Stang, Carter, Lane, & Pierson, 2009), secondary years (Mason, Field, & Sawilowsky, 2004) and into adulthood (Hadre & Reeve, 2003; Wehymeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997).

Academic Struggles

Whether it is due to increasing rigor in course material, changes in classroom settings, or simply to a decline in effort, students tend to struggle academically during this transitional period of their lives (Langenkamp, 2010). This is particularly true of students with disabilities, as research shows these students are at risk for academic struggle and failure (Fulk, Brigham, & Lohman, 1998; Grolnick & Ryan, 1990; Lackaye et al., 2006). Research also shows both student motivation (Atkinson & Feather, 1966; Gottfried, Fleming, &

Gottfried, 2001; Schunk et al., 2008) and self-determined capacity and opportunity (Carter et al., 2008; Mason et al., 2004) are related to academic performance.

As a whole, students with higher levels of motivation experience more academic success than students with lower levels of motivation (Bouffard & Couture, 2003). Students with high intrinsic motivation typically experience more academic success than students with low intrinsic motivation or high extrinsic motivation (Deci, 1975; Dev, 2008; Schunk et al., 2008). Students with learning or mastery-goal orientations typically experience more academic success than students with performance-goal orientations (Ames, 1992). These differences described are even more pronounced in students with disabilities (Adelman & Taylor, 1983, 1990; Deci, Hodges, Pierson, & Tomassone, 1992). Students with disabilities who experience low motivation or possess limited performance-goal orientations are at risk for academic failure (Fulk et al., 1998; Grolnick & Ryan, 1990). Furthermore, a relation has been found between students with disabilities reading skills and motivation (Guthrie & Wigfield, 1999; Verhoeven & Snow, 2001). Specifically, student achievement motivation is related to the quantity of text encountered during their daily life experiences (e.g., street signs, billboards, restaurant menus) and the number of books read. Consequently, students with disabilities who experience limited access to print are more likely to have low levels of achievement motivation versus students who frequently experience a variety of forms of print (Verhoeven & Snow, 2001).

Self-determination can also have an impact on student academic performance; therefore, special educators place a high value on promoting self-determined behaviors (Mason et al., 2004) even though research indicates students with disabilities typically lack the effective strategies for managing behavior such as involvement in educational planning

(Carter et al., 2008). As Pierson et al. (2008) described, many self-determined behaviors can have a direct impact on success in school, including problem solving, self-reflecting and self-assessing, and advocating for needed supports and services. The capacity and opportunity to develop these types of behaviors are of substantial importance for students with disabilities because they have a direct impact on their daily academic lives. Students with disabilities need to be able to problem solve in a variety of ways to figure out how best to approach and work through questions, and these students must have the opportunity to self-reflect and self-assess on their academic performance. More importantly, students with disabilities need to be able to advocate for themselves in school, whether it be during class activities or individual education plan (IEP) meetings, to make sure they receive the supports and services they need to reach their academic potential. Thus, it is critical for educators to help foster motivation and self-determination among students with special needs, particularly among adolescents, as they experience such impactful transitions.

Statement of the Problem

In regards to special education services and students with disabilities, student motivation and self-determination have become areas of serious concern for both academic and post-school outcomes (Algozzine, Browder, Karvonen, Test, & Wood, 2001; Stang et al., 2009). As portrayed by the fact that students with disabilities are more than three times as likely to not attain a high school diploma (National Council on Disability, 2004), it is clear that students with disabilities struggle during adolescence when it comes to academics and transitions as these kind of issues directly relate to high school dropout (National Dropout Prevention Center/Network, 2007). It also is clear that student motivation and self-determination can have a major influence on these issues for these particular students.

Because students with disabilities typically struggle with academics (Elbaum & Vaughn, 2001, 2003), motivation (Fulk et al., 1998; Grolnick & Ryan, 1990), and self-determined capacity and opportunity (Carter et al., 2008, Carter et al., 2010), an established need is apparent for further research of these constructs in the special education population. However, a gap in the literature exists when addressing this need. Currently, no studies examine the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities. Therefore, initial descriptive studies are needed to establish a building block for research in this field (Shavelson & Towne, 2002). One challenge in examining these constructs together is the lack of consistency in student and teacher perceptions of self-determined capacity and opportunity for some students with disabilities (e.g., emotional disturbances, Carter et al., 2010). Carter et al. (2010) found that teachers rated student self-determined capacity and opportunity much lower than students rated themselves. As such, it is important for the research community to seek multiple perspectives when exploring the motivation and self-determination of secondary-age students with disabilities.

Conceptual Framework for Study

Two conceptual frameworks guide this study. Research exists investigating both the motivation of students with disabilities and the self-determination of students with disabilities. However, because research in these two areas is examined in isolation to each other, this study combines the two constructs as a guide for this inquiry.

The first theory framing this study is motivation. According to DiPerna (2008), motivation is the first contributing factor that should be assessed regarding academic competence due to the strength of its relation with current achievement, as illustrated in the

literature of students with disabilities (Bouffard & Couture, 2003; Brooks, 2001; Fulk, Brigham, & Lohman, 1998). Motivation is a construct defined differently by multiple theorists and researchers (Atkinson, 1964; Atkinson & Feather, 1966; Brophy, 1987; Deci, 1971; Eccles & Wigfield, 2002; Schunk, Pintrich, & Meece, 2008). Although different definitions exist, significant overlapping themes arise among definitions. As noted previously, motivation can be described as the process of beginning and sustaining goal-directed activity (Schunk et al., 2008). More specifically, achievement motivation can be described through the works of Atkinson and Feather (1966) as the motive to achieve and avoid failure as influenced by an expressed level of aspiration and willingness to put forth effort and persist in an activity.

Initially, researchers described students' motivation to learn as either intrinsically driven or extrinsically driven (Deci, 1971, 1975). Intrinsic motivation concerns the performance of activities for individual sake in which pleasure is inherent in the activity itself (Gottfried, Fleming, & Gottfried, 2001). Intrinsic motivation also includes pleasure gained from the learning process itself, curiosity, the learning of challenging and difficult tasks, persistence, mastery orientation, and a high degree of task involvement. In contrast, extrinsic motivation encompasses student dependence, teacher-directed learning, and competitiveness (Clinkenbeard, 1996). Extrinsic motivation also can be differentiated into two subtypes: autonomous and controlled (Deci & Ryan, 1985). Autonomous motivation involves volition and choice, whereas controlled motivation involves pressure and coercion (Vansteenkiste, Lens, & Deci, 2006). As described by Schunk et al. (2008), motivation orientation directly relates to goal-directed activities. Therefore, it is necessary to understand the types of goals students have and how transitions can impact those goals. Research suggests two main types

of goal orientations that students adopt in the classroom: (a) learning or mastery-goal orientations and (b) performance-goal orientations (Ames, 1992). Similar to an intrinsic orientation, students with learning or mastery-goal orientations engage in activities to develop mastery or competence and tend to experience satisfaction from challenging tasks. Similar to extrinsic orientations, students with a performance-goal orientation tend to engage in tasks to compete for grades or social recognition. For the purposes of this paper, motivation can be defined as students' approach to academics including their initiative, goal-directed behavior, acceptance of responsibility and their preference for challenging tasks (DiPerna & Elliott, 2000). Motivation is seen as a vital component when considering academic, social, and cognitive development in adolescents across major transitions (DiPerna, 2004, 2008). It also should be noted that stakeholders' views of motivation are not entirely consistent (Stinnett, 1991), with students tending to rate themselves as having higher levels of motivation relative to teacher perspectives.

With regard to this particular study motivation should be evaluated according to the different components that make up the motivation subscale of the measure used. Because this particular measure is not based in any one theory of motivation, it is important to establish a theoretical root for each of the previously mentioned four main components: *preference for challenging tasks, goal-directed behavior, initiative, and accepting responsibility*. First, the *preference for challenging tasks* and *initiative* components can be rooted in intrinsic motivation (Deci, 1971, 1975) under the desire for mastery and curiosity domains respectively. As previously described intrinsic motivation involves the performance of activities for individual sake in which pleasure is inherent in the activity itself, which includes a preference for challenging tasks/mastery and initiative/curiosity (Gottfried,

Fleming, & Gottfried, 2001). The third component, *goal-directed behavior*, can be associated with achievement goal theory (Elliott & Dweck, 1988), which as previously described involves students' approach to learning as either mastery or performance oriented (Dweck & Leggett, 1988). The final component, *accepting responsibility*, can be associated with attribution theory, in particular locus of control (Weiner, 1979). This is illustrated in the fact that students attribute success and failure to either internal or external causes, which includes accepting responsibility for their own behaviors or academic experiences. In addition to motivation, another component linked to students' educational success is student self-determination.

The second theory framing this study is self-determination theory. Similar to motivation, multiple researchers describe self-determination differently (Deci & Ryan, 1985; Field & Hoffman, 1994; Mithaug, Campeau, & Wolman, 1992; Ward, 1988; Wehmeyer & Berkobien, 1991), but their definitions share overlapping characteristics. The original theory of self-determination can be traced to Deci and Ryan (1985) and can be seen as a macrotheory of human motivation focusing on a more social structure including social processes and problems (Deci & Ryan, 2008). Self-determination focuses on three psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 1985). Autonomy refers to students believing their actions and behaviors are self-endorsed, self-created, and independent of external sources. Competence refers to students believing their actions and behaviors are effectively enacted, meaningful, and lead toward mastery. Relatedness refers to students believing they need to be connected to others in academic as well as social settings. When applied to an educational setting, these psychological needs represent their natural tendencies to learn (Niemiec & Ryan, 2009).

Self-determination theory postulates intrinsic motivation is driven by basic psychological needs for autonomy and competence (Niemiec & Ryan, 2009). Niemiec and Ryan (2009) argue that if the needs of autonomy and competence are not satisfied, intrinsic motivation in students will not be maintained. This claim separates this theory from similar theories, such as self-efficacy theory (Bandura, 1989), as other theories do not assign functional significance to autonomy (Niemiec & Ryan, 2009). Using the definition of self-determination put forth by Deci and Ryan (1985) as a guide, it is crucial to acknowledge that in special education literature, additional theories of self-determination exist. Although there are a wide variety of definitions regarding self-determination, an overlapping theme of basic psychological needs of autonomy, competence, and relatedness exists among them.

Three main theories of self-determination, with a particular emphasis on transitions, commonly cited in special education literature are described by Field and Hoffman (1994), Mithaug, Campeau, and Wolman (1992) and Wehmeyer (1992). First, Field and Hoffman (1994) developed a theory of self-determination focusing on individual student beliefs, knowledge, and skills. This theory describes the importance of internal, affective factors, and skills on student self-determination (Field, 1996) and emphasizes the psychological needs for autonomy and competence. Second, Wehmeyer's theory of self-determination (1992) places a heavy emphasis on self-determination as an adult outcome. It is based on a set of attitudes and abilities learned through life experiences and their application to academic and social transitions (Field, 1996). This theory incorporates all three psychological needs as described by Deci and Ryan (1985), placing an emphasis on student need for autonomous functioning, empowerment, and mastery, as well as on belongingness (Field, 1996). Finally, Mithaug, Campeau, and Wolman (1992) created a theory of self-

determination based on self-regulation. This theory focuses on students' ability to self-regulate choices and actions to become self-determined (Field, 1996) and also emphasizes the psychological need for autonomy and competence. As a result, through a combination of these theories, for the purposes of this study, self-determination reflects the capacity and opportunity of students to know and express their own needs, interests and abilities (Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994) particularly within a population of students with disabilities.

With regard to this particular study, self-determination should be viewed within the concepts of capacity and opportunity as described by Wolman and colleagues (1994), allowing for a distinction between the concepts of motivation and self-determination. Wolman and colleagues (1994) defined capacity to self-determine as "students' knowledge, abilities, and perceptions that enable them to be self-determined and feel good about it" (p. 5) and opportunity to self-determine as "students' chances to use their knowledge and abilities" (p. 5). According to the equal opportunity theory (Mithaug, 1995), there exists a discrepancy between the right and experience of student self-determination, which depends on that capacity and opportunity. If either one of these is constrained, the experience and development of student self-determination decreases (Wolman et al., 1994). A connection between the capacity to self-determine their behavior and the opportunities to self-determine their behavior needs to exist in order for students to fully experience self-determination. Not only do students need to acquire these skills but they also need the opportunities to practice honing these skills. For example, if a student has the ability and knowledge to engage in self-determined behaviors, but they lack the opportunity to engage in these behaviors, their self-determined behaviors will not fully develop. As a result, the capacity and opportunity

definitions of self-determination used in this study moves away from the more traditional view of self-determination theory and allows for comparison between the two main constructs addressed in this study.

Purpose of Study

The purpose of this investigation is to examine the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities. Specifically, the purpose of this study is (a) to explore whether there is a relation between the motivation and self-determined capacity and opportunity of students with disabilities according to student and teacher perspectives; (b) to explore to what extent teachers share similar or divergent views of student overall motivation, overall self-determination, and capacity to self-determine; and (c) to explore to what extent academic achievement varies as a function of motivation and self-determination according to student and teacher perspectives.

Potential Contributions of the Study

As described by Shavelson and Towne (2002), to establish rich knowledge in scientific inquiry, different types of questions are needed. The initial research questions deal with “what is happening,” which includes a description of the association of different variables (2002). This is the beginning question in a field of research and is a crucial step in the development of a new line of research inquiry. As a result, although limited in generalizability, contributions of this study are closely aligned with those of a descriptive study as described by Shavelson and Towne (2002). The first major contribution is to provide this initial level of understanding regarding the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities. Second,

this study will contribute to the body of literature investigating the consistency between teacher ratings of student motivation and self-determined capacity and opportunity. Specifically, do teachers of different content areas rate students with disabilities differently according to their motivation and self-determination? Third and finally, this study will shed light on the relation among student motivation, self-determined capacity and opportunity, and academic achievement in students with disabilities. For example, do students with disabilities who have higher levels of motivation and self-determination also have more academic success? As a result, this study contributes to the body of literature investigating motivation as well as self-determination of adolescent students with disabilities and can be seen as the beginning of a line of inquiry blending the two constructs for this population. This study also can potentially indirectly inform teacher education by contributing to the literature. By establishing a relation between the two constructs, researchers can expand on this work by investigating the causality of this relation and whether one informs the other. Thus, there is potential for educators to influence student motivation and self-determination through instructional strategies supporting these constructs.

Finding ways for teachers to promote and foster motivation in students has gained recent attention due to high-stakes testing and a focus on a standardized curriculum. Teacher education programs can begin to focus on teaching pre- and in-service teachers the basic premises behind motivation and self-determination in students. To have lasting motivation to succeed in school, students need to experience an internal reward by accomplishment of tasks. Only self-determination promises to provide students with the internal sense of accomplishment brought about by realizing a goal set for one's self (Ackerman, 2006). It is important for teachers to learn to help students develop self-determination by capitalizing on

students' interests, by identifying realistic task choices that accomplish the goals of the lessons, and by allowing students to select preferred tasks. These are skills that pre-service teachers can be taught after research has determined a clear connection between motivation and self-determination among students with special needs.

Summary

In summary, this study was a descriptive study that investigated the relation between motivation and self-determined capacity and opportunity of adolescent students with disabilities. This study is grounded in the theories of motivation and self-determination and provides a starting point for research investigating the relation between student motivation and self-determined capacity and opportunity within this population of adolescents with disabilities. It is anticipated that this study's findings will provide a starting point for researchers to refer to when investigating these constructs. It also is anticipated that the results of this study will assist general and special educators in recognizing the increased need for improving student motivation and self-determination that influence student academic performance and life transitions.

CHAPTER TWO

Literature Review

This review explores existing research on the motivation and self-determination of adolescent students with disabilities. The seminal works of researchers in these two fields were discussed in Chapter 1. This chapter will review the major works in these areas with a focus on studies that involve students with disabilities during their adolescent years.

Method Used to Select Reviewed Studies

Using the Individuals with Disabilities Education Act (IDEA) of 1990 as a starting point due to the classifications of different types of disabilities, a thorough review of publications from 1990 to present was evaluated. This evaluation was done through a systematic search of educational and psychological databases (ERIC, Education Full Text, Academic Search Complete, PsycINFO). For this study, the search was limited to only peer-reviewed journals and edited chapter books, excluded dissertations, and selected articles printed in English only. Additionally, because disability status and categories differ between countries, only studies with a sample of students in the United States were included in this literature review. Because two main constructs are being reviewed, two separate searches were run. The first search terms for student motivation included all possible combinations and derivatives of the following sets of terms: (a) *motivation, achievement motivation, academic motivation, performance motivation*; (b) *disabilities, at-risk, exceptionalities*; and (c) *adolescence, junior high school, middle school, high school, secondary school, teenagers*.

The second search terms for student self-determined behaviors included all possible combinations and derivatives of the following sets of terms: (a) *self-determination, self-determined behaviors*; (b) *disabilities, at-risk, exceptionalities*; and (c) *adolescence, junior high school, middle school, high school, secondary school, teenagers*.

The following criteria were established for inclusion in this literature review: (a) studies were conducted in middle school, junior high, or high school settings; (b) studies took place with a sample of students identified as having some type of disability; and (c) studies were published between 1990 and 2012. For the motivation section of the literature review one additional criterion was set for selection, which included only studies that addressed components of the measure of motivation for this particular study including: preference for challenging tasks, goal-directed behavior, initiative, and accepting responsibility. A total of 217 documents that addressed student motivation of adolescent students with disabilities were electronically retrieved. After the 217 titles and abstracts were read, 16 articles were selected, matching all of the preset criteria for inclusion in this literature review. Finally, a hand search of journals publishing more than one of the studies was conducted dating to the first study found in 1990. Searches were conducted in the following journals: *Journal of Learning Disabilities, Learning Disabilities Research and Practice, Exceptional Children*. The hand searches yielded no additional articles meeting the preset criteria for inclusion in this literature review. A total of 16 research studies were found to represent the literature on the motivation of adolescent students with disabilities. For the self-determination section of the literature review, one additional criterion was set for selection in order to align with the design of the current study, which included only descriptive studies on the self-determination of students with disabilities and excluded intervention studies. In the second search, 139

documents that addressed the self-determination of adolescent students with disabilities were electronically retrieved. After the 139 titles and abstracts were read, 15 articles that met all of the preset criteria for inclusion in this literature review were selected. Finally, a hand search of journals publishing more than two studies included in the 15 articles was conducted dating to the first study found in 2000. Searches were conducted in the following journals: *Exceptional Children*, *Remedial and Special Education*, *The Journal of Special Education*, and *Career Development for Exceptional Children*. The hand searches yielded one additional article that met the preset criteria for inclusion in this literature review. A total of 16 research studies were found to represent the literature on the self-determination of adolescent students with disabilities.

Review of the Literature

Motivation and Adolescents with Disabilities. A review of the literature on the motivation of students with disabilities during their adolescent years revealed studies that investigated different disability categories. The majority of the studies reviewed focused on the motivation of students with learning disabilities while fewer focused on a combination of disability diagnoses. As a result of this division in the research, the following literature review is organized to fit that model by first reviewing the literature on the motivation of adolescent students with learning disabilities and then with mixed or different disability categories. A total of 12 studies focus solely on students with learning disabilities while the remaining four studies focus on intellectual disabilities or on a mixed sample of disability categories. Because these studies are organized under disability category, see Table 2.1 below for a theoretical map organizing the studies reviewed according to the particular motivational component covered in the article.

Motivational Component in ACES	<i>Preference for challenging tasks</i>	<i>Goal-directed behavior</i>	<i>Initiative</i>	<i>Accepting responsibility</i>
Theoretical Background	Intrinsic Motivation – Desire for Mastery	Achievement Goal Theory	Intrinsic Motivation – Curiosity	Attribution Theory – Locus of Control
Related Studies Discussed in Literature Review	<p>Singh, Farquhar, & Hewett (1991): task variation</p> <p>Yong & McIntyre (1992): learning styles</p> <p>Wilson & David (1994): willing to learn difficult, challenging and novel tasks</p> <p>Lackaye & Margalit (2006): effort in the presence of challenging tasks</p> <p>Baird, Scott, Dearing, & Hamill (2009): persistence in challenging tasks</p> <p>Gilmore & Cuskelly (2009): persistence in tasks</p>	<p>Bos & Van Reusen (1994): goal setting in IEP meetings</p> <p>Wilson & David (1994): enjoyment of learning</p> <p>Bouffard & Couture (2003): mastery and performance goals</p> <p>Baird, Scott, Dearing, & Hamill (2009): goal preference measure</p> <p>Sharabi & Margalit (2011): achievement goals/motivation</p>	<p>Melekoglu (2011): intrinsic motivation and students' desire to read</p> <p>Deci, Hodges, Pierson, & Tomassone (1992): intrinsic motivation and educational outcomes</p> <p>Fulk, Brigham, & Lohman (1998): intrinsic and achievement motivation</p>	<p>Grolnick & Ryan (1990): attributions of outcomes to external sources</p> <p>Ring & Reetz (2000): attributions of grades to extrinsic or intrinsic sources</p> <p>Klassen & Lynch (2007): attributions of failure in school tasks</p> <p>Baird, Scott, Dearing, & Hamill (2009): attributions of effort in academic settings</p> <p>Feldman, Kim, & Elliott (2011): attributions of success related to accommodations</p>

Table 2.1

Note: Some studies may appear under multiple motivational components.

Learning Disabilities. Student motivation is and has been a topic of increasing interest in the educational and psychological communities. Although the majority of the research in this field deals with typically developing students, there is an evolving and increasing body of knowledge concerning the motivation orientation of students with varying types of disabilities. Although studies address different categories of disabilities, the overwhelming majority of the literature investigates the motivation of students diagnosed with learning disabilities (LD). This body of literature can be traced to studies in the mid-1980s (Schneider, 1984) where researchers investigated the perceptions of school and academic self-concepts of students with learning difficulties. However, for the purposes of this paper, the first study identified in this review post IDEA 1990 was conducted by Grolnick and Ryan (1990) conducted a study examining the self-perceptions, motivational orientations, and classroom adjustments among students with learning disabilities. This study addressed how students accept responsibility by attributing outcomes to external or internal sources. This study compared a group of students diagnosed with learning disabilities (LD), a group of students with matched IQ and no diagnosis of LD, a group of randomly selected typically developing students, and a group of low-achieving students. Subjects in all groups completed domain-specific measures of self-concepts, perceptions of control, and motivation. In addition, teachers rated these students on motivation and competence indices as well as on classroom behavioral adjustment. Results indicated that children diagnosed with LD were lower in perceived cognitive competence and academic self-regulation compared to typically developing students, yet were comparable to the low-achieving group in these domains. Children diagnosed with LD also were more likely to perceive academic outcomes as controlled by others in power, such as teachers. However, no

significant group effects were found for general self-perceptions of control or competence. These results provide initial support for students diagnosed with LD as having lower academic motivation compared to typically developing students, yet the researchers acknowledge that limitations, including the lack of group differences for self-perceptions, need to be addressed in future research.

Continuing the early stages of research in this field, Singh, Farquhar, and Hewett (1991) examined whether supporting student domain-specific intrinsic motivation through the variation of tasks and task difficulty could increase the efficacy of direct rehearsal. This study looked at the spelling of four 15-year-old high school sophomores diagnosed with learning disabilities. The study assigned three conditions in the alternating-treatments design, including direct rehearsal, direct rehearsal with task variation, and a no-training control. Overall, the results showed no significant increase in the spelling proficiency of the two direct rehearsal groups, although both did significantly outperform the no-training control group. Substantial limitations to this study were realized, including the lack of a direct measure of student motivation. As a result, the researchers lack the ability to conclude that this direct rehearsal with and without task variation increased student motivation during the spelling performance, but the research does provide support for research in the field of motivation with regards to students with learning disabilities, in particular the need for additional research investigating students' preference for academic tasks.

Addressing the need to look at group differences between the motivation of students with disabilities, Yong and McIntyre (1992) conducted a study investigating group differences, including gender and grade, between the general learning styles of students with LD and gifted students. Students were questioned regarding their learning style and how it

impacts their preference for challenging tasks. This study evaluated the self-report data of 117 high school students aged 15-17, 53 of whom were diagnosed with learning disabilities and 64 as gifted. Overall, results indicated no significant gender and grade differences regarding student motivation. Results did suggest that students with LD were significantly less motivated than students identified as gifted. Also of note, this study found that students with LD tended to prefer learning later in the morning and through more formal instructional designs. Limitations of this study acknowledged by the researchers included a lack of generalization and a comparison group of typically developing students. Despite these limitations, this study provided additional confirmation that students with learning disabilities tend to have low levels of motivation during their adolescent years as well as highlighting the importance learning styles and motivation have concerning student individualized education plans (IEPs).

A study by Bos and Van Reusen (1994) directly assessed this issue of motivation and student IEPs by looking at a motivation strategy instruction to increase student participation in IEPs. This study measured the amount and quality of goals set during students' IEP meetings, which exemplify goal-directed behavior. The study looked at 21 high school students identified as having a learning disability and their parents. One group of parents and students assigned to the treatment group took part in an IEP participation strategy to discuss the purpose and procedures of an IEP meeting. The contrast group also provided informal lectures and discussions about the purposes and procedures. Overall, the results indicated students in the treatment groups set more goals, were more involved during their IEP meeting, and even came prepared with additional questions about processes and their academic futures. Although the results of this study provide support for this instructional

strategy, limitations, including a lack of a control group, hinder the generalization of any conclusions. Despite these limitations, this study highlights the claim that adolescent students with learning disabilities can provide information during their IEP meetings and that increasing their motivation to participate in these meetings can be beneficial to their academic experiences.

To improve the knowledge base of the academic intrinsic motivation of students with disabilities, Wilson and David (1994) conducted a study of general intrinsic motivation and attitudes toward school of early adolescents with learning disabilities. This study involves items from the Children's Academic Intrinsic Motivation Inventory (CAIMI; Gottfried, 1986) assessing preference for challenging tasks and goal-directed behavior. A total of 89 students in fourth through eighth grade from 15 schools completed two measures investigating motivation and attitudes toward school. Overall, results of these self-reports indicated that students with LD had more positive attitudes toward their general school environment than they did toward learning tasks. Although not a nationally representative sample, the results of this study also suggested students with LD scores on the motivation measures, when compared to the non LD norm, were significantly lower regarding the academic intrinsic motivation not only in a general measure but across all individual subject areas, including math, social science, science, and reading. Additionally, the mean motivation scores of students with LD began to decline significantly starting in seventh grade and continued into eighth grade, a change that supports the claim that student motivation decreases substantially during adolescence while highlighting the need for additional research in the field.

To understand the reasoning behind how students with disabilities rationalize their grades and accept responsibility, Ring and Reetz (2000) investigated the attributions for anticipated grades of 35 middle school students diagnosed with learning disabilities. The focus of this study was to determine whether these students attributed general grades to extrinsic factors, such as task difficulty or intrinsic factors, such as effort and interest as well as whether teacher accommodations and adapted grading practices would influence their response. Overall, results of the self-report surveys suggested that most students attributed their highest grade to intrinsic motivation factors such as effort, ability, and interest while only some of the students attributed their highest grades to extrinsic factors such as task difficulty and luck. In regards to their lowest grades, the most common attribution assigned was an extrinsic factor-task difficulty, with student ability the second most-cited attribute. The authors use this finding to illustrate the concept that students with learning disabilities typically experience learned helplessness as described in Ayres, Cooley, and Dunn (1990). Additionally, students receiving accommodations and adapted grading attributed grades more to intrinsic factors such as effort than to extrinsic factors, a finding that will be echoed in a more recent study discussed later in this review (Feldmen, Kim, & Elliott, 2011). This study emphasizes the need for differentiated instruction as a source for student responsibility and achievement through increased student intrinsic motivational attributes and highlights the value of continued motivational research in the field of students with disabilities.

Bouffard and Couture (2003) conducted a study comparing general self-perceptions of academic competence, learning goals, and judgments of usefulness of school subjects as motivational determinants of high school students' commitment and achievement according to their learning abilities. A second focus of this study was to compare how these variables

related to academic commitment and achievement according to the type of students across two subjects measured. This study used a questionnaire developed by Bouffard and colleagues (1998) addressing items dealing with mastery and performance goals addressing goal-directed behaviors. A total of 226 secondary-aged students participated in this study, of whom 61 were identified as having a learning disability. Results of this study's self-report data suggest the relevance of the motivational variables did not vary significantly between students diagnosed with LD labeled as high achievers or average students or between school subjects. These results support the idea that motivation cannot be viewed as either an innate concept or as a personality trait but rather should be seen as a construct built from individual learning activities and experiences varying from one situation to another. Surprisingly, additional findings suggested there were no significant differences between mastery-goal orientations of students with and without LD. Overall, researchers emphasize the need for further investigation into this to more fully comprehend the situational variables affecting motivation in both high-achieving students and average-achieving students diagnosed with LD.

Lackaye and Margalit (2006) conducted a study comparing the social-emotional implications of academic achievement of students diagnosed with LD and of typically developing students. The study also focused on identifying predictors of effort investment and motivation in an academic setting of seventh grade students. End-of-grade reports and a self-report questionnaire were used to measure general motivational variables, including effort in the face of challenging tasks, self-efficacy, and hope, concerning academics. In accordance with research previously described, students diagnosed with LD showed lower levels of achievement, effort investment, academic self-efficacy, and of hope as well as

increased levels of loneliness and a negative mood in the classroom setting. Students diagnosed with LD then were compared with typically developing peers across four groups of different academic achievement levels: low achievers, low-average achievers, high-average achievers, and high achievers. Results from these comparisons indicated that students diagnosed with LD showed higher achievement than the low-average group, but their social-emotional profiles were similar to the low- and low-average groups. Results also indicated that achievement, academic self-efficacy, and hope were significant predictors of effort investment and motivation for students diagnosed with LD. These results demonstrate the significance that academic achievement, self-efficacy, and hope have in understanding the motivational functioning of students diagnosed with LD and suggest additional research in this field to address this.

Different from previous studies, Klassen and Lynch (2007) investigated the general motivation of students with learning disabilities by conducting a qualitative methodological study investigating self-efficacy beliefs of students diagnosed with LD among an eighth and ninth grade population. The study involved sequential questioning during a series of focus-group interviews among the sample of students diagnosed with LD as well as individual interviews with seven specialist LD teachers. The researchers measured motivational variables, including self-efficacy, student self-awareness, and attributions for failure in an academic setting. Results from this study supported previous research because self-report data suggested students diagnosed with LD tend to view themselves lower in self-efficacy. However, results from the teacher interviews indicated that the students diagnosed with LD were viewed as overconfident concerning academic tasks. Additionally, student self-reports indicated they viewed verbal persuasion as a valued source influencing self-efficacy, whereas

teacher interview data did not reveal similar observances. Results also indicated that students diagnosed with LD attributed failures to a lack of effort while teacher interview data attributed these failures to uncontrollable deficits. This study highlights the severe discrepancy between student self-reports and teacher interview data concerning adolescent students with LD. This discrepancy reveals a need for further investigation into the relationship between teachers and students diagnosed with LD concerning motivational attributions in academic settings.

Adding to the idea of interviewing students about their motivation, Baird, Scott, Dearing, and Hamill (2009) conducted a study examining whether students with learning disabilities report more maladaptive cognitive self-regulatory characteristics, which are known to influence motivation, than their typically developing peers. These characteristics are exhibited in behaviors such as lack of persistence, lower academic expectations, and negative affect (2009). A total of 1,518 adolescents completed measures of self-efficacy, intelligence, goal preferences, and attributions for exerting effort in academic settings. Some 107 of these students were identified as having LD, and in general the students ranged from ages 10-19. In general, results suggested that students with LD scored significantly lower in self-efficacy, showed a tendency to think intelligence was fixed and not able to be changed, affiliated with performance goals more than learning goals, and exerted limited effort with academics. These results support the authors' idea that students with LD do exhibit a self-regulatory pattern more closely associated with maladaptive approaches to learning. Despite limitations, including a lack of causality and a lack of an academic performance variable, the results emphasize the need for interventions to target a broad range of self-regulatory processes to support the motivation of students with LD.

Similar to the previous study, Melekoglu (2011) examined student motivation according to a domain-specific model when he examined the motivation of students with learning disabilities and who struggled with reading. This study was a quasi-experimental one-group pre- and post-test design with no control group focusing on whole group, small group, and technology-integrated instruction to increase reading achievement and motivation. The motivation to read of 38 middle school and high school students, 13 with LD, was measured with the *Adolescent Motivation to Read Survey* (AMRS), which addresses student intrinsic motivation towards reading and asks questions regarding student taking the initiative to improve their reading skills. Despite results indicating both groups of students demonstrated statistically significant reading gains, the results showed that the only significant increase in motivation to read was for students without LD and that students with LD did not increase their motivation to read through the study. The author describes several limitations to the study affecting its generalizability, including a small sample size and lack of control group. Even considering these limitations, this research has implications for practice because the author emphasizes the need for teachers to focus on the importance of reading for students' lives, which could increase their motivation to read.

The final study in this section, which focused solely on the motivation of students with learning disabilities was, conducted by Sharabi and Margalit (2011) and focused on a multidimensional model of loneliness as it related to adolescents with LD in different educational environments. The study aimed to identify the different factors that mediated loneliness in school, and one of them was student motivation. A total of 716 adolescents in grades 10-12 ranging in age from 16-18 participated in this study, 334 of whom were diagnosed with LD. For this particular study, motivation was looked at through social

and academic lenses via an adaptation of the *Social Goal Scale* (Wentzel, 1991), which is based in achievement goal theory. Items in this questionnaire measure concepts such as accepting responsibility and perseverance in the face of challenging tasks. Overall, results indicated that the positive and negative moods of students and their achievement-oriented motivation did significantly predict student loneliness statistically. A particularly interesting finding of this study was that students with LD who had higher achievement goals also had increased feelings of loneliness, while the severity of the LD, according to authors report, was only partially considered to be a factor in the students' loneliness. Although there were several limitations in this study, including severity of LD being determined only by the level of accommodations students' needed, the results of this study highlight and support the usefulness of motivation research in the field of students with LD.

Mixed Disabilities. Deci, Hodges, Pierson, and Tomassone (1992) conducted a study investigating autonomy and competence as motivational factors in students diagnosed with learning disabilities and emotional handicaps (EH). The study used questionnaires in assessing students' self-perceptions and perceptions of home and classroom contexts. Researchers noted that all variables theoretically reflected either competence or autonomy aspects of internal motivation or of students' personal academic adjustments. Students' achievement and adjustment were predicted from motivational relevant self-perception and perception of context variables. Results indicated different patterns revealed for students diagnosed with LD when compared to students diagnosed as having an EH in their junior-high sample. Students diagnosed with LD experienced significantly more academic failures, leading to low feelings of academic competence. These results provide support that internal-motivation variables are critical for academic achievement and for adjustment among this

population of students with disabilities. Additionally, the authors illustrate the need for the support of autonomy, both in the home and classroom environments, to increase internal motivation, achievement, and adjustment, particularly for adolescent students with disabilities.

Similar to Deci and colleagues, Fulk, Brigham, and Lohman (1998) conducted a study investigating motivational characteristics of three groups of adolescents: a group of students diagnosed with LD, a group diagnosed with emotional or behavioral disorders (EBD), and a group of typically developing students with average achievement. Researchers administered three questionnaires designed to measure motivational strategies for learning to these middle school and junior high students in grades 6-8. These measures consisted of items evaluating student intrinsic and achievement motivation. Overall, results indicated a significant difference detected concerning motivation measurements among the three groups. Students diagnosed with LD were more likely to be alienated and oriented toward avoiding work when compared to the other two groups. This finding is surprising because it usually is expected for students with EBD to be more alienated socially, but researchers acknowledge that students with EBD in the sample tended to spend more time in special education classes where the students with LD were more in general education classes, allowing them more interaction time with typically developing students and an increased chance to experience alienated. In addition, a gender difference was noted, as male students were significantly associated with increased feelings of academic alienation compared to female students. Despite the limitations of a limited sample size and lack of generalizability, the results of this study continue the effort to investigate the motivational orientations of students with a variety of disabilities and draw comparisons with their typically developing peers.

Extending the body of literature to different types of disabilities, Gilmore and Cuskelly (2009) examined the motivation of students with Down syndrome through a longitudinal study from early childhood to adolescence. Mastery motivation was evaluated in 25 participants with Down syndrome and was operationalized by student persistence measured by tasks and parental report. Overall, the results indicated a level of stability regarding the mastery motivation for children Down syndrome, a finding that contradicts the research claim of a decline in intrinsic motivation during the adolescent years for students. Results of this study do support Dweck's (1991) claim that there are individual differences in motivation that come about at an early age for students with disabilities and that these differences are likely to continue into their later years. Additionally, results of this study support the argument that motivational orientation is domain specific as persistence was correlated with success in reading but not with math achievement, indicating domain specificity. Despite the limitations of this study, including a small sample size and no control group for comparison, this study contributes to the body of literature investigating the motivation of students with disabilities as it branches into a different subcategory and provides initial evidence for the motivation of students with Down syndrome.

The final study evaluated for this section of the review by Feldmen, Kim, and Elliott (2011) examined the effects of testing accommodations on student performance and the attitudes and reactions to tests of students with a variety of disabilities. Overall, 48 eighth grade students, half of whom were identified as having a learning disability, emotional disturbance, speech and language impairment, or other health impairment, participated in this study. Overall, the results suggested significant differences between the test experiences of students with and without disabilities and the effect that accommodations have on student

motivation, particularly of their attitudes and beliefs. In general, students with disabilities scored significantly lower on test-related self-efficacy with self-efficacy positively correlating with overall test performance for all students, including those with disabilities. Accommodations were reported to have improved the test performance for all students. However, a more significant effect was found in students with disabilities as it also was related to student self-efficacy and motivation. Despite the limitations of this study, including small sample size and lack of treatment integrity regarding accommodations, the results support the idea that when properly implemented, testing accommodations can significantly increase the self-efficacy of students with a variety of disabilities.

Summary. Research has demonstrated a link between student motivation and school factors, such as achievement and school outcomes (Atkinson, 1964; Atkinson & Feather, 1966; Brophy, 1987; Deci, 1971; Eccles & Wigfield, 2002; Schunk, Pintrich, & Meece, 2008). The review of literature within this study demonstrates that there exists a paucity of research within the research foundation on adolescents with learning disabilities and even fewer studies related to students with lower incidence disabilities. The limited number of studies that were reviewed using adolescents with learning disabilities arrived at similar results in that the importance of motivation in the adolescent years was found to be even more significant to students with disabilities than with typically developing peers (Bouffard & Couture, 2003; Gans, Kenny, & Ghany, 2003; Grolnick & Ryan, 1990; Lackaye & Margalit, 2006). The majority of these studies relied on student self-report and interview data as means of measuring student motivation. Additionally, the majority of these studies investigated motivation as domain-general, meaning students were assessed in their motivational attributes regarding school in general and not the more ideal and accurate

domain-specific areas. Future research in this field should seek to assess the motivation of students with disabilities in domain-specific ways in order to more accurately assess students' profiles and experiences in particular classrooms. Although these studies allude to aspects of motivation, such as preference for challenging tasks, initiative, goal-directed behavior and accepting responsibility, none of the studies reviewed link motivation to student self-determination, a key factor related to adolescents' views of themselves. The remainder of this literature review will look at research studies related to self-determination of adolescents with disabilities so that the importance of this construct can be explored in greater detail.

Self-Determined Behaviors and Adolescents with Disabilities. A review of the literature of the self-determination of students with disabilities reveals work in two primary levels. The first level, which contains the majority of the studies that focus on self-determination of students with disabilities, looks at it from a student perspective. The second level, which contains fewer studies, looks at the self-determination of students with disabilities from the practitioner point of view, including teachers and paraprofessionals. As a result of this division in research, the following literature review is organized to fit that model by first reviewing the literature on student perspectives and then on practitioner perspectives. Additionally, because there is a wide variety of research on the self-determination of students with disabilities, the first part of this review is organized into categories of disabilities. A total of ten studies focus on student perspective. Among these ten studies, five have learning disabilities as the primary diagnosis of their student sample, three have intellectual disabilities or mental retardation as their primary diagnosis of this student sample, and two studies fail to label their student sample but describe their sample as

students receiving special education services. The final six studies included in this section of the literature review look at student self-determination from the perspective of practitioners, including general education teachers, special education teachers, and paraprofessionals.

Student Perspective. The self-determination of students with disabilities is a relatively new field of research. Considering the self-determined literature can be traced to its roots during the mid-1980s (Deci & Ryan, 1985) with additional theories being applied to the classroom from a variety of researchers during the 1990s (Field & Hoffman, 1994; Mithaug, Campeau, & Wolman, 1992; Wehmeyer & Berkoben, 1991) surprisingly it is not until 2000 when the first study of the self-determination of adolescent students with disabilities is cited. Since 2000, there has been a documented shift in interest in student self-determination, particularly in students with disabilities. As noted, self-determination is paramount during times of transition, and no developmental period provides transition as often as in adolescence. This is evidenced by measures such as the Individuals with Disabilities Education Act of 1990, which emphasizes the need for transition planning to be considered during planning for special education services as well as the act's reauthorization in 1997, which said students should be involved in their education planning at age 14 (IDEA, 2004). These observations reinforce the need for self-determination in all students with disabilities.

Learning Disabilities. One observation made during the review of this body of literature is that the overwhelming majority of the studies of the self-determination of adolescent students with disabilities has a sample most heavily represented or exclusively represented by students with learning disabilities. The first study investigating the self-determination adolescent students with learning disabilities, according to student perspectives

was conducted by Trainor (2005). This study used focus groups, individual interviews, and observations to examine self-determination perceptions and behaviors in 15 male adolescents with specific learning disabilities. Overall, results suggested students believed there were greater opportunities to self-determine their behavior at home than when compared to opportunities at school. The results also suggested the students believed they could find more encouragement in these behaviors at home than at school. This study also revealed an interesting observation: Students identified themselves and their family members, not their teachers, as key players in regards to transitions. This observation is consistent with additional findings in this study that suggested most school exit plans for students were not individualized and tailored to the specific student.

Building off the previous study, Trainor (2007) conducted another qualitative study evaluating the self-determination skills of adolescents with learning disabilities during transition periods, this time among a female population. This is the only study found in this review to focus solely on female adolescents with disabilities. This study included focus-group interviews and individual follow-up interviews of seven females adolescents identified as having a learning disability. Three major themes emerged from the interviews: (a) students expressed the belief they were self-determining, particularly outside of a school setting; (b) results of interviews suggested student self-determined skills were in need of development; and (c) consistent with the previous study, individualized transition planning was not a part of their high school experience. Results of this study highlight a theme that will emerge in this literature review regarding the disconnect between students and teachers when it comes to how each feels about student self-determination.

Although Trainor's work (2005, 2007) focused solely on students identified with learning disabilities, a common observation in this literature review is how studies evaluate students with varying types of disabilities. Yet, among most of these studies, students with learning disabilities consist of the majority of the study sample and therefore are included in this section. One example of this is a study conducted by Carter and colleagues (Carter, Lane, Pierson, & Glaeser, 2006). It examined self-determination of adolescents with LD and emotional disorders (ED) from a student, parent, and teacher perspective. It should be noted that this is the first that evaluates the self-determination of students with emotional and behavioral disorders. Overall, 85 high school students ranging in age from 14-19 completed the *AIR Self-Determination Scale* (Wolman et al., 1994). Results indicate parents and teachers rated students with ED significantly lower than students with LD in regards to capacity for self-determination; this observation was most pronounced from the teacher perspective. Students with ED also were less likely to rate themselves the same as teachers than were students with LD. These results echo previous findings (Trainor, 2005, 2007) regarding the difference between the way students and teachers see student self-determination.

Building off work by Carter and colleagues (2006), Pierson, Carter, Lane, and Glaeser (2008) conducted a study examining the contributions of social skills and behavior problems to student self-determined behaviors in 90 high school students with LD and ED. Participants were given the *AIR Self-Determination Scale* (Wolman et al., 1994) assessing their self-determined capacity and opportunity as well as questionnaire assessing their social skills. Overall, the social skills ratings of students were significant predictors of student capacity to self-determine their behavior but were not significant in regard to their

opportunity to self-determine their behaviors. This finding suggests that student opportunity to self-determine their behavior does not increase if students are more adept at social skills, but their ability to self-determine does. There was however no predictive value found regarding student problem behaviors and their influence on student self-determination. This finding was contrary to the prediction that increased student-problem behaviors was negatively associated with student self-determination. This study provided a building block for additional research in the area of self-determination, social skills, and problem behaviors in adolescents with disabilities.

Carter, Trainor, Owens, Sweden, and Sun (2010) investigated this relation between student self-determined capacity and opportunity and social skills and problem behaviors more thoroughly with a sample of 196 students with LD, with emotional and behavioral disorders (EBD), and cognitive disabilities (CD). Students and teachers were administered the *AIR Self-Determination Scale* (Wolman et al., 1994) as well as a social skills questionnaire. Interestingly enough, and contrary to previous research, social skills and problem behaviors were found to be predictive of student capacity to self-determine but not for the opportunity to self-determine. As noted, additional results supported previous observations that teachers rated students lower in their self-determination than students rated themselves. In regard to disability subtype, students with LD were rated higher in their capacity to self-determine than were students with EBD, and students with EBD were rated higher than students with CD, although there were no significant differences between subtypes with regard to their opportunity to self-determine. Results from these studies suggest more research is needed to determine the impact that social skills have on student self-determination.

Research in the field of self-determined behaviors in students with learning disabilities is growing and provides positive information that supports the usefulness of this area of research. Overall, results of studies support the idea that the self-determined capacity and opportunity of students with learning disabilities is in need of improvement when compared to their typically developing peers. Additional research is needed in this field to better understand the self-determination of students within this specific population.

Intellectual Disabilities. Additional research in the area of the self-determination within the student model has been conducted with the population of students with intellectual disabilities as the main disability category. Wehmeyer, Palmer, Soukup, Garner, and Lawrence (2007) conducted the first study in this area examining the contribution of self-determination to the transition-planning knowledge and skills of students with disabilities. A total of 180 students receiving special education services across four states and ranging in age from 14-21 with the majority being served under the label of intellectual disability, participated in this study. Students were given the *Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995) measuring their overall self-determination as well as a questionnaire for transition skills. Overall, results indicated self-determination was a significant predictor of overall student transition-planning knowledge and skills. Additionally, student self-determination was predictive of transition-planning factors related to IEP team goals, processes, and decision-making. In particular, results indicated self-regulation and self-awareness/knowledge were the most significant factors of self-determination to be predictive, while there was no difference between disability categories. These results support the claim that student self-determination influences transition processes among students with disabilities and that further research is needed.

Building on the existing body of literature, Shogren, Wehmeyer, Palmer, Soukup, Little, Garner, and Lawrence (2007) conducted a multistate longitudinal study that examined the impact that individual and ecological factors have on the self-determined behaviors of students with disabilities. A total of 327 high school students receiving special education services (majority under a label of ID) ranging in age from 14-21 were evaluated according to their self-determination by their teachers. Participants were administered the two main measures of self-determination the *AIR Self-Determination Scale* (Wolman et al., 1994) and the *Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995). Two major findings resulted from this study. First, teachers viewed students with intellectual disabilities as having less capacity for self-determination but not less opportunity to employ these behaviors. This means these students are judged to have the same chances to engage in self-determined behaviors but not the same ability as students with other disabilities such as learning disabilities. The second major finding was that student capacity to self-determine, opportunity to self-determine, and transitioning was predictive of student level of self-determination, but inclusion in general education was not. This indicates that the location and services students receive do not necessarily impact a student's ability to improve their self-determined behaviors. This is a positive finding in that it implies that students with disabilities, despite not having continuous access to the general-education setting, can improve their self-determined behaviors, which is encouraging because students with more severe disabilities typically spend less time in general-education classrooms and more time in self-contained classrooms. This observation is supported by previous research (Zhang, 2001), which suggests that students with intellectual disabilities have more opportunities to engage in self-determination when in self-contained classrooms than in general education.

Carter, Owens, Trainor, Sun, and Swedeen (2009) continued the area of research by investigating student self-determined capacity and opportunity, according to teacher and parent perspectives. The teachers and parents of 135 students ranging in age from 13-21 with intellectual and developmental disabilities were surveyed using the *AIR Self-Determination Scale* (Wolman et al., 1994). Results indicated that in general, teachers reported their students as having little knowledge and ability to perform self-determination, while teachers and parents agreed in students having ample opportunity to engage in self-determination at home and school. A divergence in opinion arose regarding the ability of students with intellectual disabilities to perform self-determination, with teachers rating students significantly higher than did parents. This finding is particularly interesting because it differs from previous research done by Carter and colleagues (2006) where teachers and parents rated students with LD or EBD similarly according to their ability to self-determine. One additional finding in this study in support of additional research was that student social-skill rating and problem behaviors positively predicted self-determination of students with intellectual disabilities.

Similar to the body of literature looking at the self-determination of students with learning disabilities, results from the research in the area of students with intellectual disabilities are encouraging and support the usefulness of this field. Additional research in this field should continue of the previous findings in this area and seek to enhance the knowledge base of student self-determination within this particular population.

Varying Disability Category. Although the research previously described involves the self-determination of students with varying disabilities, the overall majority of these study samples has been served under the label of learning or intellectually disabled. It is important

to note, however, that not all studies in the field of the self-determination of students with disabilities fall under that category. For example, two studies found in the literature designate no specific special education label to their sample of students, instead creating general descriptions for their students. One example is a study by McDougall, Evans, and Baldwin (2010), which examines the relation between student self-determination and the perceived quality of life of young adults with disabilities. In this study, 34 participants described as having a variety of disabilities, including spina bifida and neurological disorders, completed the *Arc's Self-Determination Scale* (Wehmeyer & Kelchner, 1995) and a life satisfaction questionnaire. Overall, results suggested a relationship exists between student self-determination and aspects of quality of life, and in particular, students with higher self-determination had higher satisfaction with both personal development and personal fulfillment. Interestingly, however, there were no significant results between self-determination and general well-being, interpersonal relations, and overall quality of life. The results of this study address the need for additional research in this particular area, and despite limitations, including small sample size and reliance on self-report, the study provides information for the future support of individuals regarding their self-determination and overall quality of life.

Similar to the previous study, Solberg, Howard, Gresham and Carter (2012) conducted a study looking at students with the general description of having high-incidence disabilities, such as learning disabilities and emotional and behavioral disorders. This study investigated the skills and dispositions that enhance student self-determination and successful transitions among 135 high school students receiving special education services. Researchers used path analyses to examine how quality secondary learning environments can contribute

to the development of student behavior and achievement. Overall, the results suggested that by strengthening the quality of transition education, student self-determined skills and opportunities could be increased. Results of this study support the claim that when provided with access to comprehensive and quality programming, students with disabilities can increase their self-determination. Despite the limitations that this was a correlational study that relied solely on student self-report, this study emphasizes the need for further research in the field of the self-determination of students with disabilities.

The research previously described dealing with the self-determination of students with a range of disabilities at the student level is a relatively new body of literature and has a promising outlook. These studies show support for the further evaluation of the self-determination of students with disabilities as being necessary to the field. However, in addition to looking at this field through the student level, it is important to address the other level of research in this field: the practitioner.

Practitioner Perspective. The second part of this section in the literature review describes the studies that examined, from a practitioner perspective, the self-determination of students with disabilities. Researchers such as Duncan and McKeachie (2005) note that social desirability plays an influential role on students during self-report of academics and behaviors. As a result, multiple researchers seek to explore student self-determination through alternate points of view to gain additional perspective. For example, Wehmeyer, Agran, and Hughes (2000) conducted a national survey with secondary teachers of students with varying types of disabilities, investigating student self-determination and their ability to teach those skills. A total of 1,219 teachers completed a survey developed by Agran, Snow, and Swaner (1999) regarding how important they believe student self-determination is and

how often they conducted specific instruction on these skills. In general, teachers were familiar with the construct of self-determination, and the majority of the respondents believed that teaching self-determined behaviors was important, while the amount of specific instruction given regarding these behaviors varied. As a result, this study provided insight into how teachers value self-determined behaviors but highlighted a cause for concern with regard to the mixed results for instruction time of these behaviors, which is an issue to be addressed in future research.

Continuing this line of inquiry, Mason, Field, and Sawilosky (2004) reviewed an online survey administered by the Council for Exceptional Children, looking at teacher attitudes and practices regarding student involvement in the IEP process and student self-determination. There were 523 usable responses from teachers, administrators, and related service professionals ranging from elementary school to high school. In general, the results suggested that practitioners highly valued student self-determined skills and involvement in IEPs, but only 8% were satisfied with the method behind teaching these self-determination skills. Additionally, only 22% of those who responded believed they were prepared to teach these types of behaviors, while the majority of the participants reported they used only informal instruction to teach self-determined skills. Secondary teachers reported more favorable responses regarding teaching self-determined skills through formal instruction than did elementary respondents. Interestingly, there were differences between teachers and administrators as administrators reported more formal training in self-determination skills instruction than did teachers. This observation is a major finding as it shows a disconnect between teachers and administrators regarding the instruction of these skills and highlights the need for further research in this area.

In an effort to further describe student self-determination through the teacher perspective, Carter, Lane, Pierson, and Stang (2008) conducted a study investigating the difference between general and special educators and their efforts to promote self-determination among high school students. This study used items measuring the instruction of self-determination from Wehemeyer et al.'s (2000) national survey. Similar to the previous study, teachers rated themselves according to how important they believe teaching each skill is in relation to other instructional practices and on how often they teach these skills in the classroom. Overall, results suggested high ratings for the importance of each component but that only sometimes do the majority of these teachers teach these skills, with the most commonly taught skill being problem solving. In general, there was a difference between the types of teachers, with special education teachers rating self-determination skills as significantly more important than did general education teachers, but interestingly enough there was no difference in the implementation of these skills in the classroom. Despite the limitations of this study, including a reliance on teacher self-report, it has a major implication for the need to create strategies for teachers to effectively teach these skills to students with disabilities. As highlighted by Carter and colleagues, special education classrooms have a particular emphasis in student self-determination, and it should be expected of them to place a higher value on self-determined behaviors, but the fact that they did not rate themselves as spending more time teaching these skills is a serious cause for concern and deserves additional research.

Echoing the previous study, Stang, Carter, Lane, and Pierson (2009) surveyed teachers about the value and instruction of self-determined behaviors and skills using the same adapted questionnaire from Wehemeyer et al.'s (2000) national survey. A total of 891

elementary school and middle school teachers were surveyed to evaluate the different self-determination skill domains in an attempt to extend the body of knowledge in this field. In general, most teachers attributed high levels of importance to the different domains as there was no significant difference between elementary school and middle school teachers regarding the importance of self-determined behaviors. Middle school teachers, however, did report a higher rate of instructional time than did elementary school teachers, which supports the findings of previous studies. Specifically related to this review, special education teachers reported a greater emphasis on the importance of student self-determination than did general education teachers, but interestingly, no significant difference was reported between the two regarding instructional time spent on the skills. Even when limitations of the study are considered, the results of this study support the alarming theme that even though special education teachers tend to place greater emphasis on the importance of self-determined behaviors in their students, and they do not spend significantly more time in the instruction of these skills.

In the field of special education, researchers need to account for the fact that teachers are not the only professionals working with students on a daily basis. The final two studies to be discussed recognized that by looking at the self-determination of students with disabilities through the eyes of paraprofessionals. Paraprofessionals typically exist for one-on-one supports within the general education and self-contained classrooms for students with more severe disabilities (Giangreco, 2010). Carter, Sisco, and Lane (2011) addressed this alternative perspective by surveying 347 paraprofessionals at 135 randomly selected schools regarding how important they believe each self-determined skill is and how much time they spend instructing these skills. Researchers used the same adapted survey from Wehemeyer et

al.'s (2000) national survey that was used in the previous studies (Carter et al., 2008; Stang et al., 2009). According to paraprofessional self-report, the most common disabilities these participants spent time with were autism and intellectual disabilities. The results of this particular study echo the results of previously discussed studies regarding teacher reports because paraprofessionals place a high value on the self-determination of students with disabilities, but the amount of instructional time teaching these skills varies throughout the sample. Also similar to findings from other teacher studies, paraprofessionals working in secondary settings rated self-determined skills as having higher importance and spent more time on instruction teaching these skills than did those working in elementary settings. This study is the first to solely focus on paraprofessionals working with students with disabilities and their thoughts on student self-determination, and this study provided a start in this line of inquiry.

Building off the previous study, Lane, Carter, and Sisco (2012) conducted a study to address the need for more information regarding paraprofessionals and their role in promoting the self-determination of students with high-incidence disabilities and whether the paraprofessionals are similar to classroom teachers. Through self-report, the most commonly cited disabilities these paraprofessionals worked with were considered learning disabilities, autism, and emotional disturbances. A total of 223 paraprofessionals from elementary school, middle school, and high school were surveyed, investigating how important they believed self-determined behaviors are for students and how often they engage in instruction regarding these skills using items adapted from Wehmeyer et al.'s (2000) national survey. In general, paraprofessionals had some familiarity with self-determined behaviors but reported limited opportunities during professional development to learn about instruction of these

behaviors. Overall, results suggested paraprofessionals place a high level of importance on self-determined behaviors for students with problem solving, choice making, and decision making being the most highly emphasized. Additionally, there were moderate levels reported regarding the amount of instructional time spent regarding these behaviors. Despite limitations, including reliance on self-report data, this study extends the body of literature on different professionals' roles in promoting self-determined behaviors among students with disabilities and encourages more research in this line of inquiry to answer additional questions.

Summary and Conclusion

The research previously described that deals with the self-determination of students with a range of disabilities at the student and practitioner level is a relatively new body of literature and has a promising outlook. These studies show support for the further evaluation of the self-determination of students with disabilities as being necessary to the field. However, in addition to looking at this field at the student level, it is important to address the multiple perspectives. Research in the field of the self-determination of students with learning disabilities is growing and provides positive information, which supports the usefulness of this area of research. Additional research is needed in this field to better understand student self-determined behaviors within this specific population. Similar to the body of literature looking at the self-determination of students with learning disabilities, results from the research in the area of students with intellectual disabilities are encouraging and support the usefulness of this field. Additional research in this field should continue to build off the previous findings in this area examining the self-determination of students in this population.

The purpose of this study is to extend this body of literature by examining the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities. As determined by the previous literature review, some research studies have focused on the motivation of adolescents with disabilities, while other studies have focused on self-determination of students with disabilities. There is, however, a gap in the literature that examines the intersection between these two bodies of research. With that being the specific focus, the purpose of this study is to (a) explore whether there is a relation between the motivation and self-determined capacity and opportunity of students with disabilities according to student and teacher perspectives; (b) explore to what extent teachers share similar or divergent views of student overall motivation, overall self-determination, and capacity to self-determine; and (c) explore to what extent academic achievement varies as a function of motivation and self-determination, according to student and teacher perspectives. The methods used to answer these questions will be presented in Chapter 3: Methods.

Research Questions and Hypotheses

There are three main research questions and posed hypotheses for each. The following section presents each research question and hypothesis.

1. *Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity, according to student and teacher perspectives?*

Given that the constructs of motivation and self-determination overlap in theory (Deci & Ryan, 1985; Niemiec & Ryan, 2009), a positive relation between the motivation and self-determined capacity and opportunity of students with disabilities from both student and teacher perspective is hypothesized. Namely, students who report higher levels of motivation as measured by the motivation subscale of the *Academic Competence Evaluation Scale*

(ACES, DiPerna & Elliott, 2000), also will report higher ratings in both their capacity to self-determine and their opportunity to self-determine as measured by the AIR *Self-Determination Scale* (AIR, Wolman, Campeau, DuBois, Mithaug, & Stolarski, 1994). If students report greater motivation to learn, they may encounter more opportunities to engage in self-determination and thereby develop their capacities with these same skill sets as described by Carter et al. (2006).

2. To what extent do teachers share similar or divergent views of student overall motivation, overall self-determination, and capacity to self-determine? To date, no studies have examined the consistency between teachers as raters regarding the motivation and self-determination of students with disabilities. As a result, it is predicted that there will be a significant difference will be found between teacher ratings of student motivation and student self-determination because of the previous literature suggesting student motivation being domain specific (Wigfield, Guthrie, Tonks, & Perencevich, 2004). Therefore teachers of different content areas will rate students differently according to their motivation and self-determination.

3. To what extent does academic achievement (as measured by student reading MAP scores) vary as a function of motivation and self-determination, according to student and teacher perspectives? Research indicates academic performance of students with disabilities is influenced significantly by student motivation (DiPerna & Elliott, 2008; Elbaum & Vaughn, 2001; Grolnick & Ryan, 1990; Zeleke, 2004) and self-determination (Carter et al., 2010; Field et al., 1998; Pierson et al., 2008). This claim is particularly relevant to the reading ability of students with disabilities (Bos & Vaughn, 1998; Chapman & Tunmer, 2003; Guthrie et al., 2006). Therefore, it is hypothesized that higher ratings of student

motivation and self-determination will be associated with higher overall scores on the measure of academic achievement across both student and teacher perspective.

CHAPTER THREE

Method

This study seeks to examine the link between motivation and self-determination of adolescents with disabilities. This chapter describes the methods used to explore the following research questions:

1. Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to student and teacher perspectives?
2. To what extent do teachers share similar or divergent views of student overall motivation, overall self-determination, and capacity to self-determine?
3. To what extent does academic achievement (as measured by student reading MAP scores) vary as a function of motivation and self-determination according to student and teacher perspectives?

Participants

School. This study took place in one private school in a suburban community in a large city in the Southeast. This target school is a non-profit, independent special education institution with an annual enrollment of fewer than 100 students and is accredited by the Southern Association of Colleges and Schools. It's a non-discriminatory school that does not receive federal funding and has a student/teacher ratio of 4.8:1. The school's staff is devoted to providing an outstanding education to students who struggle with traditional learning environments. The school provides individual education plans for all of its students, according to their needs and current academic levels, and the school incorporates different

types of assistive technology, instructional strategies, collaboration, and life skills into its daily activities. Student enrollment, in the 2009-2010 school year, was 57 (National Center for Educational Statistics [NCES], 2012). Its range of race/ethnicity was 3.5% Asian/Pacific Islander; 1.7% Hispanic; 5.2% Black, non-Hispanic; and 89.4% White, non-Hispanic (U.S. Department of Education, 2012).

Students. The motivation and self-determination capacities and opportunities of 32 middle school and high school students with disabilities were assessed in this study. The school principal and administration provided student demographic information after receiving parental consent (*Appendix A*) and student assent (*Appendix B*). This information included student gender, ethnicity, grade, age, primary disability label, and secondary disability label (if applicable). The principal provided researchers with student achievement scores. For the purposes of this study, student achievement scores were measured by the Reading Measures of Academic Progress (MAP) assessments previously administered by the school. These students ranged in age from 12-18 ($M = 15.6$; $SD = 1.7$), and 26 were male (81.25%). All youth participants in this study, except for two, were being served under the primary disability categories including autism (12.5%), Attention Deficit Hyperactive Disorder (ADHD) (53.12%), Asperger's syndrome (18.75%), intellectual disability (3.12%), specific learning disability (3.12%), and hearing impairment (3.12%). Seventeen students (53.12%) were reported to have one or more secondary disabilities, including additional disability labels such as obsessive compulsive disorder, Klinefelter's, and types of specific learning disabilities such as central auditory processing disorder, dyslexia, dysgraphia, and discalculia. Most of the 32 students (75%) were European American, but 18.75% were African American, 3.12% were Hispanic, and 3.12% were mixed race. All of the

participating students were in either middle school or high school with two students (6.25%) in sixth grade; four students (12.5%) in seventh grade; five students (15.62%) in eighth grade; nine students (28.12%) in ninth grade; six students (18.75%) in 10th grade; three students (9.37%) in 11th grade; and three students (9.37%) in 12th grade. To be included in

Table 3.1
Student Demographic Information

Variable and Level		Total N = 32 % (n)
Gender	Male	81.25 (26)
	Female	18.75 (6)
Ethnicity	White	75.00 (24)
	Black	18.75 (6)
	Hispanic	3.12 (1)
	Asian	0.00 (0)
	Native American	0.00 (0)
	Mixed Race	3.12 (1)
Grade Level	Sixth	6.25 (2)
	Seventh	12.5 (4)
	Eighth	15.62 (5)
	Ninth	28.12 (9)
	Tenth	18.75 (6)
	Eleventh	9.37 (3)
	Twelfth	9.37 (3)
Special Education: Primary Label	ADHD	53.12 (17)
	Autism	12.5 (4)
	Aspergers	18.75 (6)
	Intellectual Disability	3.12 (1)
	Learning Disability	3.12 (1)
	Hearing Impairment	3.12 (1)
	No label	6.25 (2)
Special Education Secondary Label	ADHD	9.37 (3)
	Aspergers	3.12 (1)
	Intellectual Disability	6.25 (2)
	Learning Disability	6.25 (2)
	Obsessive Compulsive Disorder	3.12 (1)
	Klinefelter's	3.12 (1)
	Central Auditory Processing Disorder	3.12 (1)
	Dyslexia	3.12 (1)
	Dysgraphia	12.50 (4)

Dyscalculia	3.12 (1)
No label	46.87 (15)

this study, students (a) must be attending the target school; (b) must be in middle school or high school classes (grades 6-12); (c) receive parental consent for participation; and (d) provide assent to participate. (Table 3.1)

Teachers. Teachers of middle school and high school students in the school were asked for consent to participate in this study. All of the 12 teachers teaching in middle school and high school consented to participate in this study. For the purposes of this study, only teachers teaching math and science or English and history (social studies) completed measures. In this case, three teachers taught middle school and/or high school math or science, and three taught middle school and/or high school English or history. Only the major content area teachers (math/science and English/history) were chosen to rate the students because research supports the claim that performance in core courses is more predictive of academic achievement and school dropout than non-core courses (Allensworth & Easton, 2005). All participating teachers completed demographic information (*Appendix C*) upon consent (*Appendix D*). Of the six participating teachers, three (50%) were male, four (66.67%) were European American, one (16.67%) was African American, and one (16.67%) was Asian/Pacific Islander. The participating teachers ranged in age from 25-51 years with a mean age of 34.16. Years of teaching experience ranged from one to 10 with 2 (33.33%) teachers in their first year, one (16.67%) teacher in the fourth year, one (16.67%) teacher in the sixth year, and two (33.33%) teachers in their 10th year of teaching. Two of the teachers (33.33%) were certified in the subject area they were currently teaching, and one (16.67%) teacher was certified in special education. (Table 3.2).

Table 3.2
Teacher Demographic Information

Variable and Level		Total N = 6 % (n)
Gender	Male	50 (3)
	Female	50 (3)
Ethnicity	White	66.67 (4)
	Black	16.67 (1)
	Hispanic	0.00 (0)
	Asian	16.67 (1)
	Native American	0.00 (0)
	Mixed Race	0.00 (0)
Teaching Certification	Yes	33.33 (2)
	No	66.67 (4)
Highest Degree Held	High School Diploma	0.00 (0)
	Bachelor's Degree	50.00 (3)
	Associate's Degree	0.00 (0)
	Master's Degree	33.33 (2)
	Doctoral Degree	16.67 (1)
Years of Teaching Experience	One	33.33 (2)
	Two	0.00 (0)
	Three	0.00 (0)
	Four	16.67 (1)
	Five	0.00 (0)
	Six	16.67 (1)
	Seven	0.00 (0)
	Eight	0.00 (0)
	Nine	0.00 (0)
	Ten	33.33 (2)

Measures

Motivation. The motivation levels of secondary students with disabilities were assessed using the motivation subscale of the Academic Enablers section of the *ACES*. This measure was chosen because this study was a part of a larger study looking at all academic enablers impacting student academic performance. This measure assesses behavioral indicators of motivation and particularly because it is one of the few used with students with

disabilities (DiPerna, 2004). According to DiPerna and Elliott (2000), this measure is an efficient and psychometrically sound instrument assessing the academic functioning of students in Grades K-12. This measure, in both teacher and student versions, is designed to evaluate student academic skills and strategic academic enablers. The academic skills section consists of 30 items and is divided into subscales that measure student abilities, such as reading/language arts skills, mathematics skills, and critical thinking skills. However, for the purposes of this study, only the Academic Enablers section was administered to students and filled in by teachers. The Academic Enablers section consists of 38 items and is divided into subscales that measure student strategic academic behaviors such as interpersonal skills, study skills, engagement, and motivation.

Because the focus of this study was on the motivation and self-determination of students, only the motivation subscale was used in data analysis. The motivation subscale as previously described in Chapter 1, is a combination of different motivational theory including intrinsic motivation, attribution theory, and achievement goal theory. The items of this subscale reflect what should be considered behavioral indicators of student attitudes toward *accepting responsibility* (e.g., “I hold myself responsible for my own learning”); *initiative* (e.g., “I like to learn about new things”); *preference for challenging tasks* (e.g., “I look for ways to challenge myself in school”); and *goal-directed behavior* (e.g., “I set goals for myself in my classes”). Teachers and students rated each item on a five-point Likert-type scale according to *how frequently* they are exhibited: (1 = *never*; 2 = *seldom*; 3 = *sometimes*; 4 = *often*; 5 = *almost always*). Each item is assigned a raw score with a confidence interval for analysis. The motivation subscale for the student survey contains nine items while the motivation subscale for the teacher survey contains 11 items. Missing data is handled according to the *ACES* manual instruction in which if two or fewer items are missing per subscale, they receive a score of three and are scored normally, while if three or more items are missing, the subscale should not be scored and a total score for the academic enablers cannot be calculated. The scores of the items are written down and then combined to form a

composite motivation score that is plotted on a provided continuum scale for each academic enabler, according to student grade level, to determine whether the student is classified as *developing*, *competent* or *advanced* in this area. Attached in the appendices section of this paper is a scanned version of the *ACES*, both student and teacher forms.

The *ACES* has strong reliability and validity (see DiPerna, 2004; DiPerna & Elliott, 1999, 2000; Elliott, DiPerna, Mroch, & Lang, 2004). Internal consistency coefficients for the *ACES* range from .94 to .99. Coefficient alphas were reported for both teacher and student forms, with teacher forms reporting alpha levels of .98 for Grades 6-8 and Grades 9-12, and student forms reporting alpha levels of .88 for Grades 6-8 and .90 for Grades 9-12 (DiPerna & Elliott, 2000). Strong test-retest reliability coefficients for the *ACES* teacher form measured in a two- to three-week period was reported at .96, while test-retest reliability coefficients for the student form measured in four- to five-week period was reported at .84 (DiPerna & Elliott, 2000). Inter-rater agreement was examined, and results indicated an *r*-value of .62 for inter-rater correlations for the teacher form, indicating a strong level of inter-rater agreement. Standard error of measurement reported by DiPerna and Elliott (2000) is considered to be relatively low. The standard error of measurement for the teacher form were reported as 1.75 for Grades 6-8 and 1.76 for Grades 9-12, while the student form reported standard errors of measurement of 2.22 for Grades 6-8 and 2.05 for Grades 9-12. Factor analysis also was reported for items on the Academic Enablers subscales for both teacher and student forms revealing the presence of four factors: *interpersonal skills*, *engagement*, *motivation*, *study skills*. According to the survey manual, teacher forms for Grades 6-12 consisted of 11 items with only one item having a factor loading below .62. Additionally, student forms show similar results on the factor analysis for Grades 6-12 consisting of 9 items with only one item having a factor loading below .53. All of this, according to DiPerna and Elliott (2000), indicates a highly congruent factor structure for student and teacher forms of the *ACES* thus providing evidence supporting the theoretical

internal structure of the *ACES*. Finally, it was estimated that completing this form would take about 20-30 minutes for both teachers and students.

Self-Determination. The self-determination capacities and opportunities of secondary students with disabilities were assessed in this study using the *AIR Self-Determination Scale*. According to Wolman and colleagues (1994), the *AIR* is an easy to use survey, designed for all school-aged students, assessing a students' level of self-determination. This particular survey was chosen for use this study because it accurately measures student's level of self-determined behaviors, is psychometrically sound, and has been used in studies looking at students with disabilities (Carter et al., 2009, 2010; Pierson et al., 2008). The *AIR* is created through student and teacher report, to measure student capacity to self-determine as well as their opportunities to self-determine and is administered in a teacher form (30 items) and student form (24 items).

The capacity section of the *AIR* scale completed by teachers (30 items) is comprised of three subscales, including *knowledge* (e.g., "Student knows how to take actions to complete own plans successfully"); *perceptions* (e.g., "Student feels free to set own goals and expectations, even if they are different from the expectations others have for the student"); and *ability* (e.g., "Student knows how to make choices, decisions, and plans to meet own goals and expectations"). The opportunity section of the scale has two subscales measuring opportunities to self-determine *at home* or *at school* (e.g., "Student has opportunities [at school /at home] to learn about making choices and plans, to make them, and to feel good about them"). The *AIR* scale completed by students has two subscales to rate their capacity to self-determine, including *Things I do* (e.g., "I know what I need, what I like, and what I'm good at") and *How I feel* (e.g., I feel good about what I like, what I want, and what I need to do") and two subscales to rate their opportunity to self-determine *at home* or *at school* (e.g., "People at [school/ home] listen to me when I talk about what I want, what I need, or what I'm good at"). Among the capacity and opportunity subscales for both teacher and student forms, questions are organized into three categories including: *thinking*, *doing*, and *adjusting*,

each of which contains two components. *Thinking* questions refer to a student's ability to identify and express needs and to set expectations and goals. *Doing* questions refer to students' ability to make choices and plans to meet goals and expectations and also to their ability to take actions to complete plans. *Adjusting* questions refer to a student's ability to evaluate the results of actions and when necessary their ability to alter plans and actions to meet their goals. Each item on both forms is scored on a five-point Likert-type scale to indicate *how frequently* the student engages in the behavior as responses range from (1) *never* to (5) *always*. Each item response for each subscale for both capacity and opportunity to self-determine is summed to produce an overall raw score for each section.

The *AIR Self-Determination Scale* has strong reliability and validity (see Mithaug et al., 2003; Wolman et al., 1994). Wolman and colleagues (1994) reported reliability results through the use of an alternative-item correlation for item consistency, a test-retest measure of stability of instrument over time, and a split-half test of internal consistency. Correlation coefficients for the alternative-item tests ranged from .91 to .98 (Mithaug et al., 2003). The reliability test indicated strong internal consistency of a split-half test of .95 between even-numbered items and odd-numbered items (Mithaug et al., 2003). An acceptable test-retest reliability score after three months of .74 also was reported (Wolman et al., 1994). The *AIR* also was validated through a factor analysis indicating the presence of four factors, which explained 74% of the total variance for the 30-item instrument (Mithaug et al., 2003). The capacity to self-determine factor explained 42.4% of the variance, the home-school factor, explained 17.2% of the variance, the opportunity factor explained 10.3% of the variance, and the knowledge-ability-perception factor explained 4.1% of the variance. As a result, according to Mithaug and colleagues (2003), this indicated the instrument appropriately measured students' capacity and opportunity to self-determine. Finally, it is estimated to take teachers 10-15 minutes and students 20-30 minutes to complete this survey.

Academic Performance. The academic performance of the students in the sample of this study was assessed using the school's existing data provided by the school principal.

This school employed the use of Measures of Academic Progress (*MAP*) scores. In particular, for the purposes of this study, Reading *MAP* scores were used to represent academic performance. *MAP* assessments provide detailed data about where each student is on their unique learning path (NWEA, 2012). These assessments are computer-based, which adjust for each student and are based on a particular Item Response Theory conceived by mathematician Georg Rasch (NWEA, 2012). As a student responds to questions, the test responds by adjusting the difficulty level of the questions. If a student responds correctly, the test presents a more challenging item. If a student responds incorrectly, the *MAP* offers a simpler question. This type of format allows the test to narrow in on a student's actual learning level (NWEA, 2012). As a result of the assessments, a score is formed, indicating the learning level of each individual student, and thus a landmark for their academic performance. These assessments are administered at this school twice a year, once in the fall and once in the spring, and resulted in no additional demands for teachers or students during the study.

Procedures

Consent. This was a descriptive study involving one-time point of data collection at the target school. The school was selected due to an expressed interest in opportunities to inform intervention efforts. This study was the first step in better understanding how to focus their practices and strategies. After obtaining Institutional Review Board (IRB) approval and school permission to conduct the study, the project staff met with the school administration and faculty. The project staff described the study and requested consent from teachers at a time deemed appropriate by the school principal (i.e., a regularly scheduled faculty meeting). Using the teacher consent form to guide talking points, project coordinators explained the purpose of the study, answered questions, and obtained signed consent. Teachers received two copies of the consent form: one to sign and return and one to keep for their records. If teachers agreed, they completed a brief demographic form to obtain basic information on teacher characteristics (e.g., age, gender, certification).

Once teacher consent was obtained, the homeroom teachers of middle school and high school students sent home parental consent forms to the parents of students in middle school and high school. Parents were told they had the option of returning the signed consent form to the school or to mail them to the project coordinator's address provided on the form, using an attached self-addressed stamped envelope. To account for mail time and parental response, parents were given three weeks to return the consent forms. The forms were sent to the parents of 52 middle school and high school students, of which 35 were returned, for a response rate of 67.3%. Of these 35 forms returned, 33 (94.28%) were signed with parental consent, while two (5.71%) were signed but did not give parental permission to talk with their students. Students whose parents gave permission to participate then were informed about the study and individually asked for assent by the project staff on the school site during a regular school day, at a time deemed appropriate by the school principal. Project staff told these students that in no way were they required to participate. The students were informed of their right to decline with no fear of repercussion from their parents or school administration. Project staff presented the students with the student assent forms and read them aloud (see *Appendix B*), describing the purpose of the study, the requirements, and the time commitment to ensure that the students were informed of the requirements of the study. Students then were asked to provide their assent or dissent for study participation. Of the 33 students whose parents consented, one student (3%) chose not to participate in the study. After student assent had been confirmed, the school principal provided the researchers a list of the math and science teachers and the English and history teachers for each assenting student. The project staff then worked together with school administration to determine the appropriate teacher raters for each student participating in the study. This included factors such as which student gave consent, assigning one teacher from either math or science and one teacher from either English or history and making sure the workload for each consenting teacher was distributed as fairly as possible, given their enrollment. For example, after parental consent and student assent were collected, administration and project staff evaluated

the students' schedules and selected one teacher of either math or science, and one teacher of either English or history, to rate each student. The school administration also provided student demographic data and student academic progress scores as measured by the MAP for all students who had given assent and whose parents had given consent.

Teacher Data Collection. Each teacher participant completed the Academic Enablers section of the Academic Competency Evaluation Scale *ACES* [Appendix E]) and the American Institutes for Research Self-Determination Scale (*AIR* [Appendix F]) for each student the teacher was assigned to rate. It was anticipated that the total amount of time teachers needed to complete these measures was 30-45 minutes as described from previous research using these measures (Carter et al., 2009; DiPerna, 2004; DiPerna & Elliot, 2000; Pierson, et al., 2008). Because some teachers taught more students, the number of students each teacher rated varied. For the Math/Science teachers, one teacher rated nine students, one teacher rated 12 students, and one rated 11 students. For the English/History teachers, one teacher rated 15 students, one teacher rated nine students, and one rated eight students. Although an even teacher-student distribution would have been ideal, given the small sample size for teachers as well as the varying number of middle school and high school students enrolled in the school and participating in this study, this was not feasible. After student assent, teachers were given the measures for each student they were assigned to rate and then were given a two-week window to complete the measures. This amount of time was given to accommodate participating teachers for their time commitment to participate in the study. Completed forms were turned in to project staff during a return trip to the school two weeks after the original student assent and were checked for completeness. On two different accounts, project staff contacted teachers via telephone regarding missing data (two questions), where project staff reminded the teacher of the questionnaire format and scoring system, read the question aloud, and asked the teacher for a response. To ensure confidentiality for the teachers, each participating teacher was assigned a unique identification number upon completion of data entry in order to account for entry errors.

Their names were removed from the demographic forms and measures after all data was entered into databases by project staff. Each teacher who completed this study was given a \$10 gift card to thank them for their time.

Student Data Collection. After project staff received consent from teachers and parents, project staff individually administered the Academic Enablers section of the *ACES* (*Appendix G*) and the *AIR Appendix H*) measures to each assenting student on school site during a one-week window at a time and location (e.g., library, open classroom, conference room) deemed appropriate by the school principal. Project staff provided the necessary accommodations for students who needed support in completing the measures as well as for ensuring consistency between administration of the surveys, as each item was read aloud by the administrator, and the participant's response was circled for them by the administrator. This was done in order to ensure treatment fidelity of the survey administration to students making it consistent for all students. Upon completion of each section for each survey, project staff reviewed the survey responses with the participant to ensure accuracy of response and entry completion. It was originally anticipated that the total amount of time students would need to complete these measures would be 40-60 minutes, but not a single administration lasted longer than 50 minutes. Students were assigned a unique identification number, and their names were removed from the demographic forms as well as the *ACES* and *AIR* measures upon data entry by project staff to assure anonymity. Each student who completed this study was given a \$5 gift card to thank them for their time.

Data Analyses

The *Statistical Analysis System, Version 9.3* was used for all data analysis. The first component of the analysis involved the use of descriptive statistics to describe core characteristics of the sample. Next, each of the three main research questions was analyzed using descriptive and inferential statistics as described below.

Question 1. Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to student

and teacher perspectives? The goal of this question was to provide a starting point in this line of research investigating the relation between the two major constructs of this paper: motivation and self-determined capacity and opportunity. To best answer this question, we conducted three separate correlation analyses (one for each rater: student, Math/Science teacher, and English/History teacher). *1.1. Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to student perspectives?* To answer this question, we performed a Pearson product-moment correlation analysis using raw scores attained from administering the surveys to students. We reported r and corresponding p values for each variable assessed. *1.2. Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to Math/Science teacher perspectives?* To answer this question, we performed a Pearson product-moment correlation analysis using raw scores attained from Math/Science teacher surveys. We report r and corresponding p values for each variable assessed. *1.3. Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to English/History teacher perspectives?* To answer this question, we performed a Pearson product-moment correlation analysis using raw scores attained from English/History teacher surveys. We report r and corresponding p values for each variable assessed.

Question 2: To what extent do teachers share similar or divergent views of student overall motivation, overall self-determination, and capacity to self-determine?

The goal of this question was to ascertain if teacher perceptions of student motivation and self-determination vary by content area. To best answer this question, we checked for significant differences in mean scores by conducting a series of dependent t tests. Dependent sample t tests were chosen because a single group of the same subjects was being evaluated under two conditions, in this case two different raters (Math/Science and English/History) (Salkind, 2004). This question was divided into three sections for analysis. *2.1. To what extent do Math/Science teachers and English/History teachers share similar or divergent*

views of student overall level of motivation? Mean score comparisons and effect sizes are reported for each variable assessed. 2.2. *To what extent do Math/Science teachers and English/History teachers share similar or divergent views of student overall level of self-determination?* Mean score comparisons and effect sizes are reported for each variable assessed. 2.3. *To what extent do Math/Science teachers and English/History teachers share similar or divergent views of student capacity to self-determine?* Mean score comparisons and effect sizes are reported for each variable assessed.

Question 3: To what extent does academic achievement (as measured by student reading MAP scores) vary as a function of motivation and self-determination according to student and teacher perspectives? The goal of this question was to analyze any impact student motivation and self-determination could have on academic achievement as measured by student reading scores. This question was best answered using a series of multiple-linear regressions (one for each rater: student, Math/Science teacher and English/History teacher) to determine the impact each of the constructs has on student academic achievement. 3.1 *To what extent does academic achievement vary as a function of motivation and self-determination according to students' perspective?* 3.2. *To what extent does academic achievement vary as a function of motivation and self-determination according to Math/Science teacher perspectives?* 3.3. *To what extent does academic achievement vary as a function of motivation and self-determination according to English/History teacher perspectives?*

Risks & Limitations

There were no known risks to teachers. The only inconvenience was the loss of time for teachers to complete the demographic form and rating scales (*ACES* and *AIR*). After the data were analyzed, researchers provided a summary of the information and findings of the surveys to the target school so that the teachers would benefit from receiving assessment information about their students' motivational and self-determined behaviors. There were no known risks to students. Again, the only known inconvenience was the loss of time for

students to complete the rating scales (*ACES* and *AIR*), which as previously described, was designed to be minimal. The teacher and student were able to request a brief report with a summary of their scores for both measures after the data was analyzed for additional information.

There are several limitations to this study. In particular, there are issues with the generalizability of the results to a larger population. First, this is a non-experimental study. Second, the particular sample for this study is in a private, restricted setting for students, which does not allow for generalization to a general-education classroom. Third, although acceptable, the sample size is relatively small, which limits the generalizability of the results. In addition to generalizability, there are limitations regarding the research design. A major limitation in this area is related to the lack of domain-specificity of the motivation measure. This particular study was part of a larger study investigating all academic enablers of the *ACES* not just the motivation of students. As a result, this particular measure of motivation is at a domain-general level assessing student overall motivation instead of assessing student motivation in particular classes, which limits the ability to compare student motivation between teachers in different content areas. Another limitation is the issue of self-report data. According to Duncan and McKeachie (2005), there have always been issues with the validity of self-reports due to a concern with social desirability. However, according to Meece and colleagues (2003), student perceptions are most critical in explaining student outcomes and are commonly found in psychological and educational research. Another limitation deals with the issue of conflation. Because these two constructs overlap, particularly with regards to goal-directed behavior, there is a concern around measuring the same construct and correlating them. Although this exists, it should be noted that the questions regarding goal-directed behaviors in this particular study are different and are only one aspect of the motivational subscale of the *ACES*. A final limitation deals with the fact that this type of study is simply a descriptive study that attempts to determine if there is a

relation between student motivation and self-determined capacity and opportunity, and based on these findings no conclusion can be drawn regarding any causal relation.

Despite these limitations, any correlations made between student motivation and self-determined capacity and opportunity could provide future researchers with a starting point for further investigation into these constructs and as a result, interventions to support the development of these behaviors in students within this particular population. Because students with disabilities typically suffer through negative experiences in school, it is important for researchers to gain an understanding of how student motivation and self-determined capacity and opportunity are related, as both have been shown to impact student academic experiences (Carter et al., 2008; DiPerna & Elliott, 2008). This study has the potential to demonstrate the relation between student motivation and self-determined capacity and opportunity, how teachers of different content areas compare with their ratings of students regarding these constructs, and how these constructs are associated with academic performance.

CHAPTER FOUR

Results

The purpose of this study was to examine the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities. This study asked several research questions and posed hypotheses for each. The following section first presents descriptive statistics and then each research question and hypothesis.

Descriptive Statistics

Students' ratings of their overall motivation ranged from 25 to 44 ($M = 34.66$, $SD = 5.49$) out of a total possible score of 45. Students' ratings of their overall level of self-determination ranged from 62 to 111 ($M = 88.78$, $SD = 12.93$) out of a total possible score of 120. Students' ratings of their capacity to self-determine their behavior ranged from 29 to 57 ($M = 43.78$, $SD = 7.19$) out of a total possible score of 60. Students' ratings of their opportunity to self-determine their behavior ranged from 32 to 58 ($M = 45$, $SD = 7.65$) out of a total possible score of 60. Math/Science teacher ratings of students' overall motivation ranged from 16 to 55 ($M = 37.18$, $SD = 10.43$) out of a total possible score of 55. Math/Science teacher ratings of students' overall level of self-determination ranged from 88 to 149 ($M = 113.06$, $SD = 17.37$) out of a total possible score of 150. Math/Science teacher ratings of students' capacity to self determine their behavior ranged from 42 to 90 ($M = 62.43$, $SD = 13.62$) out of a total possible score of 90. English/History teacher ratings of students' overall motivation ranged from 25 to 55 ($M = 37.15$, $SD = 9.08$) out of a total possible score of 55. English/History teacher ratings of students' overall level of self-

determination ranged from 82 to 135 ($M = 110.21$, $SD = 13.47$) out of a total possible score of 150. English/History teacher ratings of students' capacity to self-determine their behavior ranged from 40 to 83 ($M = 60.09$, $SD = 8.96$) out of a total possible score of 90.

Research Questions

1. *Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to student and teacher perspectives?*

Given the constructs of motivation and self-determined behaviors overlap in theory (Deci & Ryan, 1985; Niemiec & Ryan, 2009), a positive relation between the motivation and self-determined capacity and opportunity of students with disabilities from both student and teacher perspective is hypothesized. Namely, students who report higher levels of motivation, as measured by the motivation subscale of the *Academic Competence Evaluation Scale* (ACES, DiPerna & Elliott, 2000), will also report higher ratings in both their capacity to self-determine and opportunity to self-determine as measured by the *AIR Self-Determination Scale* (AIR, Wolman, Campeau, DuBois, Mithaug & Stolarski, 1994). If students report higher motivation to learn, they may encounter more opportunities to engage in self-determined behaviors and thereby develop their capacities with these same skills sets as described by Carter et al. (2006).

2. *To what extent do teachers share similar or divergent views of student overall motivation, overall self-determination, capacity to self-determine and opportunity to self-determine?*

To date, there have been no published studies examining the consistency between teachers as raters regarding the motivation and self-determined capacity and opportunity of students with disabilities. As a result, it is predicted there will be a significant difference between teacher

ratings of student motivation and student self-determined capacity and opportunity because of the previously described literature emphasizing motivation as a domain specific concept, which would differ between content areas.

3. To what extent does academic achievement as measured by student reading MAP scores vary as a function of motivation and self-determination according to student and teacher perspectives? Research indicates academic performance of students with disabilities is significantly related to student motivation (DiPerna & Elliott, 2008; Elbaum & Vaughn, 2001; Grolnick & Ryan, 1990; Zeleke, 2004) and self-determination (Carter et al., 2010; Field et al., 1998; Pierson et al., 2008). This claim is particularly relevant when it comes to the reading ability of students with disabilities (Bos & Vaughn, 1998; Chapman & Tunmer, 2003; Guthrie et al., 2006). Therefore, it is hypothesized that higher ratings of student motivation and self-determination will be associated with higher overall scores on the measure of academic achievement across both student and teacher perspective.

Question 1. Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to student and teacher perspectives? Analysis of research question 1.1 (the student's perspective) provides evidence of several statistically significant positive correlations. As predicted, student overall motivation score was statistically significantly correlated with student overall level of self-determination ($r = .38, p < .05$), student overall capacity to self-determine ($r = .51, p < .01$), composite score for "Things I Do" ($r = .45, p < .01$), and composite score for "How I Feel" ($r = .51, p < .01$), but was not statistically significantly correlated with any of the opportunity to self-determine variables. Student overall level of self-determination was statistically significantly correlated with each of the self-determination subcategory

variables: overall capacity to self-determine ($r = .86, p < .001$), “Things I Do” ($r = .85, p < .001$), “How I Feel” ($r = .79, p < .001$), overall opportunity to self-determine ($r = .88, p < .001$), “What Happens at School” ($r = .83, p < .001$), and “What Happens at Home” ($r = .65, p < .001$). As expected, there were statistically significant correlations between student overall capacity to self-determine and the two subcategories measuring capacity: “Things I Do” ($r = .94, p < .001$), and “How I Feel” ($r = .95, p < .001$) but also with overall opportunity to self determine ($r = .52, p < .01$), and “What Happens at School” ($r = .53, p < .01$). Student composite scores for “Things I Do” were also statistically significantly correlated with “How I Feel” ($r = .80, p < .001$), overall opportunity to self-determine ($r = .56, p < .001$), and “What Happens at School” ($r = .59, p < .001$). Student composite scores for “How I feel” were also statistically significantly correlated with overall opportunity to self-determine ($r = .43, p < .05$), and with “What Happens at School” ($r = .42, p < .05$). As expected, student overall opportunity to self-determine was statistically significantly correlated with the two subcategories measuring opportunity: “What Happens at School” ($r = .90, p < .001$) and “What Happens at Home” ($r = .79, p < .001$), and finally “What Happens at School” was correlated with What Happens at Home” ($r = .46, p < .01$) according to student perspectives. See Table 4.1.

1.2. Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to Math/Science teacher perspective?

Results of research question 1.2 also showed several statistically significant positive correlations. As predicted, the Teacher 1 ratings of student overall motivation were statistically significantly correlated with Teacher 1 rating of student overall level of self-determination ($r = .61, p < .001$), Teacher 1 rating of student overall capacity to self-

Table 4.1

Research Question 1: Correlational Data: Students

	S MOT	S SD LVL	S SD CAPAC	S SD DO	S SD FL	S SD OPPOR	S SD OPS	S SD OPH
S MOT								
S SD LVL	.38 .0310							
S SD CAPAC	.51 .0030	.86 < .0001						
S SD DO	.45 .0100	.85 < .0001	.94 < .0001					
S SD FL	.51 .0029	.79 < .0001	.95 < .0001	.80 < .0001				
S SD OPPOR	.17 .3579	.88 < .0001	.52 .0024	.56 .0009	.43 .0136			
S SD OPS	.25 .1670	.83 < .0001	.53 .002	.59 .0004	.42 .0169	.90 < .0001		
S SD OPH	-.01 .9744	.65 < .0001	.33 .0666	.32 .0715	.30 .0943	.79 < .0001	.46 .0088	

Note. S MOT = (Student Rater) student level of motivation; S SD LVL = (Student Rater) student level of self-determination; S SD CAPAC = (Student Rater) student capacity to self-determine; S SD DO= (Student Rater) things I do; S SD FL = (Student Rater) how I feel; S SD OPPOR = (Student Rater) student opportunity to self-determine; S SD OPS = (Student Rater) opportunities to self-determine at school; S SD OPH = (Student Rater) opportunities to self-determine at home.

determine ($r = .73, p < .001$), Teacher 1 rating of composite score for “Knowledge” ($r = .69, p < .001$), Teacher 1 rating of composite score for “Ability” ($r = .75, p < .001$), and Teacher 1 rating of composite score for “Perception” ($r = .58, p < .001$), but were not statistically

significantly correlated with any variables measuring the opportunity for students to self-determine. The Teacher 1 ratings of student overall level of self-determination were positively correlated with each of the variables included in the model: Teacher 1 rating of student overall capacity to self-determine ($r = .93, p < .001$), Teacher 1 rating of composite score for “Knowledge” ($r = .81, p < .001$), Teacher 1 rating of composite score for “Ability” ($r = .89, p < .001$), Teacher 1 rating of composite score for “Perception” ($r = .88, p < .001$), Teacher 1 rating of student overall opportunity to self-determine ($r = .69, p < .001$), Teacher 1 rating of composite score for “What Happens at School” ($r = .58, p < .001$), and Teacher 1 rating of composite score for “What Happens at Home” ($r = .44, p < .05$). Statistically significant correlations also existed between Teacher 1 ratings of student overall capacity to self-determine and Teacher 1 rating of composite score for “Knowledge” ($r = .92, p < .001$), Teacher 1 rating of composite score for “Ability” ($r = .94, p < .001$), Teacher 1 rating of composite score for “Perception” ($r = .90, p < .001$), Teacher 1 rating of student overall opportunity to self-determine ($r = .39, p < .05$), and Teacher 1 rating of composite score for “What Happens at School” ($r = .47, p < .01$). Teacher 1 rating of “Knowledge” significantly correlated with Teacher 1 rating of “Ability” ($r = .79, p < .001$), Teacher 1 rating of “Perception” ($r = .72, p < .001$), and Teacher 1 rating of “What Happens at School” ($r = .42, p < .05$). Teacher 1 rating of “Ability” significantly correlated with Teacher 1 rating of “Perception” ($r = .80, p < .001$), Teacher 1 rating of overall opportunity to self-determine ($r = .40, p < .05$), and Teacher 1 rating of “What Happens at School” ($r = .37, p < .05$). Teacher 1 rating of “Perception” significantly correlated with overall level of opportunity to self-determine ($r = .45, p < .01$), and with “What Happens at School” ($r = .53, p < .01$). Finally and as expected, student overall level of opportunity to self-determine was statistically

significantly correlated with each of the subcategories measuring opportunity: “What Happens at School” ($r = .54, p < .01$) and with “What Happens at Home” ($r = .84, p < .001$).

See Table 4.2.

Table 4.2.

Research Question 1: Correlational Data: Teacher Rater 1 (Math/Science)

	R1 MOT	R1 SD LVL	R1 SD CAPAC	R1 SD KNOW	R1 SD ABIL	R1 SD PERC	R1 SD OPPOR	R1 SD OPS
R1 MOT								
R1 SD LVL	.61 .0002							
R1 SD CAPAC	.73 < .0001	.93 < .0001						
R1 SD KNOW	.69 < .0001	.81 < .0001	.92 < .0001					
R1 SD ABIL	.75 < .0001	.89 < .0001	.94 < .0001	.79 < .0001				
R1 SD PERC	.58 .0005	.88 < .0001	.90 < .0001	.72 < .0001	.80 < .0001			
R1 SD OPPOR	.09 .6138	.69 < .0001	.39 .0274	.24 .1840	.40 .0219	.45 .009		
R1 SD OPS	.31 .0848	.58 .0005	.47 .0061	.42 .0156	.37 .0366	.53 .0018	.54 .0014	

Note. R1 MOT = (Teacher Rater 1) student level of motivation; R1 SD LVL = (Teacher Rater 1) student level of self-determination; R1 SD CAPAC = (Teacher Rater 1) student capacity to self-determine; R1 SD KNOW = (Teacher Rater 1) student self-determined knowledge; R1 SD ABIL = (Teacher Rater 1) student self-determined ability; R1 SD PERC = (Teacher Rater 1) student self-determined perception; R1 SD OPPOR = (Teacher Rater 1) student opportunity to self-determine; R1 SD OPS = (Teacher Rater 1) student opportunities to self-determine at school.

1.3. *Is there a relation between the motivation of students with disabilities and their self-determined capacity and opportunity according to English/History teacher perspectives?*

Similar to the previous two correlation analyses, research question 1.3 also showed several statistically significant positive correlations. Interestingly, for Teacher rater 2, statistically significant correlations existed for ratings of student overall motivation with each variable included in the model: Teacher 2 rating of student overall level of self-determination ($r = .76, p < .001$), Teacher 2 rating of student overall capacity to self-determine ($r = .68, p < .001$), Teacher 2 rating of composite score for “Knowledge” ($r = .70, p < .001$), Teacher 2 rating of composite score for “Ability” ($r = .63, p < .001$), Teacher 2 rating of composite score for “Perception” ($r = .51, p < .01$), Teacher 2 rating of student overall opportunity to self-determine ($r = .63, p < .001$), Teacher 2 rating of composite score for “What Happens at School” ($r = .52, p < .01$), and Teacher 2 rating of composite score for “What Happens at Home” ($r = .59, p < .001$). Teacher 2 rating of overall level of self-determination also statistically significantly correlated with each of the variables included: Teacher 2 rating of student overall capacity to self-determine ($r = .90, p < .001$), Teacher 2 rating of composite score for “Knowledge” ($r = .88, p < .001$), Teacher 2 rating of composite score for “Ability” ($r = .91, p < .001$), Teacher 2 rating of composite score for “Perception” ($r = .76, p < .001$), Teacher 2 rating of student overall opportunity to self-determine ($r = .81, p < .001$), Teacher 2 rating of composite score for “What Happens at School” ($r = .57, p < .001$), and with Teacher 2 rating of composite score for “What Happens at Home” ($r = .79, p < .001$). Teacher 2 rating of student overall capacity to self-determine statistically significantly correlated with “Knowledge” ($r = .94, p < .001$), “Ability” ($r = .91, p < .001$), “Perception” ($r = .88, p < .001$), overall opportunity to self determine ($r = .47, p < .01$), and with “What

Happens at Home” ($r = .48, p < .01$). Teacher 2 rating of “Knowledge” significantly correlated with “Ability” ($r = .81, p < .001$), “Perception” ($r = .75, p < .001$), overall opportunity to self-determine ($r = .51, p < .01$), and with “What Happens at Home” ($r = .50, p < .01$). Teacher 2 rating of “Ability” significantly correlated with “Perception” ($r = .67, p < .001$), overall opportunity to self-determine ($r = .42, p < .05$), and with “What Happens at Home” ($r = .40, p < .05$). Teacher 2 rating of “Perception” also significantly correlated with overall opportunity to self-determine ($r = .35, p < .05$), and with “What Happens at Home” ($r = .39, p < .05$). As expected, Teacher 2 rating of overall opportunity to self-determine was statistically significantly correlated with both subcategories measuring opportunity: “What Happens at School” ($r = .75, p < .001$), and “What Happens at Home” ($r = .96, p < .001$). Finally and as expected, “What Happens at School” significantly correlated with “What Happens at Home” ($r = .52, p < .01$). See Table 4.3.

Question 2: To what extent do teachers share similar or divergent views of student overall motivation, overall self-determination, and capacity to self-determine? 2.1 *To what extent do Math/Science teachers and English/History teachers share similar or divergent views of student overall level of motivation?* Analysis of question 2.1 (student motivation) provided no evidence of significant differences between ratings of teachers of different content areas. A paired-sample t test was conducted to compare the ratings of student motivation between teachers of different content areas including a Math/Science teacher and an English/History teacher. Results of the t test indicate there was no significant difference between rater one ($M = 37.19, SD = 10.43$) and rater two ($M = 37.16, SD = 9.09$) with regard to student motivation; $t(31) = 0.02, p = 0.98$. These results suggest that within this sample, teachers of all content areas rate their students’ level of motivation similarly.

Table 4.3.

Research Question 1: Correlational Data: Teacher Rater 2 (English/History)

	R2 MOT	R2 SD LVL	R2 SD CAPAC	R2 SD KNOW	R2 SD ABIL	R2 SD PERC	R2 SD OPPOR	R2 SD OPS
R2 MOT								
R2 SD LVL	.76 < .0001							
R2 SD CAPAC	.68 < .0001	.90 < .0001						
R2 SD KNOW	.70 < .0001	.88 < .0001	.94 < .0001					
R2 SD ABIL	.63 .0001	.82 < .0001	.91 < .0001	.81 < .0001				
R2 SD PERC	.51 .0031	.76 < .0001	.88 < .0001	.75 < .0001	.67 < .0001			
R2 SD OPPOR	.63 .0001	.81 < .0001	.47 .0067	.51 .0031	.42 .0167	.35 .0499		
R2 SD OPS	.52 .0024	.57 .0007	.29 .1062	.34 .0568	.31 .0881	.13 .4634	.75 < .0001	

Note. R2 MOT = (Teacher Rater 2) student level of motivation; R2 SD LVL = (Teacher Rater 2) student level of self-determination; R2 SD CAPAC = (Teacher Rater 2) student capacity to self-determine; R2 SD KNOW = (Teacher Rater 2) student self-determined knowledge; R2 SD ABIL = (Teacher Rater 2) student self-determined ability; R2 SD PERC = (Teacher Rater 2) student self-determined perception; R2 SD OPPOR = (Teacher Rater 2) student opportunity to self-determine; R2 SD OPS = (Teacher Rater 2) student opportunities to self-determine at school.

2.2 To what extent do Math/Science teachers and English/History teachers share similar or divergent views of student overall level of self-determination? Analysis of question 2.2 (student overall level of self-determination) provided no evidence of significant

differences between ratings of teachers of different content areas. A paired-sample t test was conducted to compare the ratings of student overall level of self-determined behaviors between teachers of different content areas including a Math/Science teacher and an English/History teacher. The results of the t test indicated there was no significant difference between rater one ($M = 113.06$, $SD = 17.38$) and rater two ($M = 110.22$, $SD = 13.48$) with regard to student overall level of self-determination; $t(31) = 1.07$, $p = 0.29$.

2.3 To what extent do Math/Science teachers and English/History teachers share similar or divergent views of student capacity to self-determine? Analysis of question 2.3 (student capacity to self-determine) provided no evidence of significant differences between ratings of teachers of different content areas. A paired-sample t test was conducted to compare the ratings of student capacity to self-determine between teachers of different content areas including a Math/Science teacher and an English/History teacher. Results of the t test indicated there was no significant difference between rater one ($M = 62.44$, $SD = 13.63$) and rater two ($M = 60.10$, $SD = 8.96$) with regard to student capacity to self-determine; $t(31) = 1.07$, $p = 0.29$.

Question 3: To what extent does academic achievement (as measured by student reading MAP scores) vary as a function of motivation and self-determination according to student and teacher perspectives? *3.1 To what extent does academic achievement vary as a function of motivation and self-determination according to students' perspectives?* A single multiple linear regression analysis was conducted to determine if the dependent variable, student academic achievement (as measured by student reading MAP scores) could be predicted from the independent variables, students' rating of their motivation and overall self-determination. As a group, the independent variables did not explain a significant

portion of the variance in academic achievement, $F(2, 29) = 0.37, p = 0.69$. This means the explained variance in student reading scores was not significantly greater than the unexplained variance. In this case, neither students' ratings of motivation, $t(32) = -0.67, p = .51$, nor their ratings of self-determination, $t(32) = -0.24, p = .81$, was significant.

A post-hoc power analysis was conducted to examine whether or not it was possible to find a statistically significant difference with this sample size ($N = 32$) if in fact a real difference does exist. The recommended effect sizes used for this assessment were as follows: small ($f^2 = .02$), medium ($f^2 = .15$), and large ($f^2 = .35$) (Cohen, 1988). The alpha level used for this analysis was $p < .05$. Using an effect size calculator provided by Soper (2006), analyses revealed a small effect size ($f^2 = .02$) and a low power (.11), which could be the reason for non-significant findings. Having larger sample size would have provided more power and therefore should be considered in future studies.

3.2 To what extent does academic achievement vary as a function of motivation and self-determination according to Math/Science teacher perspectives? A single multiple linear regression analysis was conducted to determine if the dependent variable, student academic achievement (as measured by student reading MAP scores) could be predicted from the independent variables (Math/Science teachers' rating of student motivation and overall self-determination). As a group, the independent variables did not explain a significant portion of the variance in academic achievement, $F(2, 29) = 2.03, p = 0.15$. This means the explained variance in student reading scores is not significantly greater than the unexplained variance. In this case, neither Math/Science teacher ratings of student motivation, $t(32) = -0.96, p = .3432$, nor their ratings of student self-determination, $t(32) = 1.99, p = .0561$, was significant.

A post-hoc power analysis was conducted to examine whether or not it was possible to find a statistically significant difference with this sample size ($N = 32$) if in fact a real difference does exist. As mentioned previously, the recommended effect sizes used for this assessment were as follows: small ($f^2 = .02$), medium ($f^2 = .15$), and large ($f^2 = .35$) (Cohen, 1988). The alpha level used for this analysis was $p < .05$. The analyses revealed a small effect size ($f^2 = .14$) and a low power (.43), which could be the reason for non-significant findings. Once again, having larger sample size would have provided more power and therefore should be considered in future studies.

3.3 To what extent does academic achievement vary as a function of motivation and self-determination according to English/History teacher perspectives? A single multiple linear regression analysis was conducted to determine if the dependent variable, student academic achievement (as measured by student reading MAP scores) could be predicted from the independent variables, English/History teachers' rating of student motivation and overall self-determination. As a group, the independent variables did not explain a significant portion of the variance in academic achievement, $F(2, 29) = 0.60$, $p = 0.55$. This means the explained variance in student reading scores is not significantly greater than the unexplained variance. In this case, neither English/History teacher ratings of student motivation, $t(32) = -0.32$, $p = .7483$, nor their ratings of student self-determination, $t(32) = 0.92$, $p = .3632$, was significant.

A post-hoc power analysis was conducted to examine whether or not it was possible to find a statistically significant difference with this sample size ($N = 32$) if in fact a real difference does exist. As mentioned previously, the recommended effect sizes used for this assessment were as follows: small ($f^2 = .02$), medium ($f^2 = .15$), and large ($f^2 = .35$) (Cohen,

1988). The alpha level used for this analysis was $p < .05$. The analyses revealed a small effect size ($f^2 = .04$) and a low power (.15), which could be the reason for non-significant findings. Once again, having larger sample size would have provided more power and therefore should be considered in future studies.

CHAPTER FIVE

Discussion

Using a sample of 32 middle and high school students with varying disability classifications and six of their core subject teachers, this study examined the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities. Specifically, the purpose of this study was to explore (a) whether or not there is a relation between the motivation and self-determined capacity and opportunity of students with disabilities according to student and teacher perspectives; (b) to what extent teachers share similar or divergent views of student overall motivation, overall self-determination, capacity to self-determine and opportunity to self-determine; and (c) to what extent academic achievement varies as a function of motivation and self-determination according to student and teacher perspectives. The findings of the current study provide future researchers a starting point for research combining student motivation and self-determination among students with disabilities. This chapter is divided into three sections. The first section discusses the interpretation of the findings for the descriptive statistics and each of the research questions. The second section describes the significance and contributions of the

study to the literature on students with disabilities and instruction. The final section includes implications for future research, acknowledgement of study limitations with suggestions for improvement, and a brief conclusion.

Interpretation of Findings

As previously discussed in Chapter 1, literature has shown adolescents or secondary students with disabilities typically perceive themselves differently than their typically developing peers when it comes to the development of their academic identities (Elbaum & Vaughn, 2001, 2003; Lackaye, Margalit, Ziv & Ziman, 2006; Polychroni, Koukoura & Anagnostou, 2006; Zeleke, 2004). This has been shown in the literature as students with disabilities typically score lower on motivation measures (Grolnick & Ryan, 1990) and lower on measures of self-determination (Carter et al., 2008). However, according to the descriptive statistics of this particular study from the student perspective, there are mixed findings regarding student motivation and self-determination. First, this sample of students' ratings of their overall motivation ($M = 34.65$, $SD = 5.49$) when compared to the standardization sample (DiPerna & Elliott, 2000) were more aligned with the results from the students in the general education setting ([Grades 6-8: $M = 35.45$, $SD = 6.12$] [Grades 9-12: $M = 35.87$, $SD = 6.20$]) than students in the learning disability sample ([Grades 6-8: $M = 31.39$, $SD = 6.85$] [Grades 9-12: $M = 32.24$, $SD = 7.20$]). This is a positive sign for this particular sample showing these students have high levels of motivation according to their own ratings but does not support the literature describing students with disabilities as having low levels of motivation. Second, results from this sample of students' ratings of their overall levels of self-determination ($M = 88.78$, $SD = 12.93$) were lower than the standardization sample of both students without disabilities ($M = 111.2$) and students with disabilities ($M =$

99.2) (Mithaug, 2003). These results suggest that this particular sample of students have poor self-images regarding their self-determined capacity and opportunity as they on average rated themselves lower than the standardization sample, which supports the previous claim that students with disabilities rate themselves lower than typically developing students regarding their self-determination.

Additionally, descriptive statistics from the teacher perspective for this particular sample provided mixed results. First, this sample of teachers' ratings of student overall motivation ([Math/Science: $M = 37.18$, $SD = 10.43$] [English/History: $M = 37.15$, $SD = 9.08$]) were more closely aligned with the teachers' ratings of students' with learning disabilities overall motivation in the standardization sample ([Grades 6-8: $M = 31.84$, $SD = 8.55$] [Grades 9-12: $M = 35.22$, $SD = 10.64$]) than the students without learning disabilities ([Grades 6-8: $M = 45.59$, $SD = 9.48$] [Grades 9-12: $M = 46.51$, $SD = 8.88$]). These results support the claim that teachers typically rate students with disabilities as having lower motivation when compared to their typically developing peers. Second, results from this sample of teachers' ratings of students overall level of self-determination ([Math/Science: $M = 113.06$, $SD = 17.37$] [English/History: $M = 110.21$, $SD = 13.4$]) were more aligned with the standardization sample teachers' ratings of students without disabilities ($M = 112$) than their ratings of students with learning disabilities ($M = 99.5$). These results suggest this particular sample of teachers rated their students as having higher than expected ratings of their self-determination when compared to the standardization sample. Overall the results of the descriptive statistics provide evidence for future research in this field. These mixed results lack the consistency needed in order to fully support or refute the claims made in the

literature regarding the motivation and self-determination of students with disabilities according to student and teacher perspectives.

As previously mentioned, two vital components to the development of these academic identities are their motivation and self-determination. The answer to the question of whether there is a relation between motivation and self-determined capacity and opportunity of students with disabilities is vital for the fields of mental health and education. However, before a case for causality can be made, it is first necessary to establish a relation. Therefore, the central question posed in this study was whether or not there is a significant correlation between student motivation and self-determined capacity and opportunity in this particular sample of students with disabilities. Results of this study provide promising evidence that the motivation and self-determined capacity and opportunity significantly correlate with each other for this sample of students. According to student perspective, student overall motivation was significantly correlated with student overall level of self-determination ($r = .38, p < .05$), and all measures of student capacity to self-determine ($r = .51, p < .01$) indicating a strong relation between student motivation and overall self-determined level and capacity to self-determine. An interesting finding, however, was that overall student motivation did not significantly correlate with student opportunity to self-determine ($r = .17, p = .36$) indicating there was no significant relation between student motivation and the opportunity to self-determine their behavior. These results suggest that according to student perspective, their overall levels of motivation and self-determination and their capacity or ability to perform self-determined behaviors are related, but that the opportunity to engage in self-determination, whether at home or at school is not related to their motivation. The dynamic that exists between reading achievement, motivation, and opportunities to self-

determine is an interesting one. Research has shown us that three observations are supported. First, most students referred for special education services are referred for reading disabilities (Bos & Vaughn, 1998). Second, when students continue to experience failure in reading, especially from an early age, the long term effects on motivation are negative, often bringing about poor school outcomes (National Institute of Child Health and Human Development [NICHD], 2000). Finally, student motivation in reading is directly related to the amount of text they read while the ability to read is often hindered by reading difficulties so students often demonstrate lower rates of self-determination in reading, therefore lacking reading motivation (Guthrie & Wigfield, 2000; Verhoeven & Snow, 2001). This is intriguing because as previously described, there is evidence to suggest that exposure to text increases student motivation (Guthrie & Wigfield, 2000) and exposure to text directly relates to opportunities at school and home. This would logically lead researchers to believe that increasing student opportunities to self-determine would be related to an increase in student motivation, however these results do not reflect such an association.

The first research question also was evaluated according to teacher perspectives. As previously mentioned, student self-report data is often times suspect to bias through social desirability (Duncan & McKeachie, 2005), emphasizing the need for multiple perspectives. According to the Math/Science teacher ratings, student overall motivation was significantly correlated with student overall level of self-determination ($r = .61, p < .001$), and all measures of student capacity to self-determine their behaviors ($r = .73, p < .001$), indicating a strong relation between student motivation and student overall self-determined level and capacity to self-determine. Similar to student perspectives, Math/Science teachers' rating of student opportunity to self-determine their behaviors did not significantly correlate with

student motivation ($r = .09, p = .61$). Because it is difficult for teachers to interpret the opportunity for students to engage in self-determined behaviors at home, a particular concentration on teacher ratings of students' opportunity to self-determine at school was evaluated and did not produce a significant relation ($r = .31, p = .08$). Evaluating the relation between the two constructs from an English/History teacher perspective produced similar results. According to English/History teacher-ratings, student overall motivation was significantly correlated with student overall level of self-determination ($r = .76, p < .0001$), all measures of student capacity to self-determine their behaviors ($r = .68, p < .001, < .01$), and all measures of student opportunity to self-determine ($r = .63, p < .001, < .01$), with opportunities at school in particular being related ($r = .52, p = .002$).

Overall there were several significant correlations between the ratings of motivation and self-determination from all three raters, indicating when students report higher ratings of motivation, they will typically report higher ratings of self-determination. This finding supports the hypothesis that student motivation and self-determination are correlated, which sets the stage for future researchers to investigate this relationship more thoroughly.

The second research question sought to identify variability in reports between teachers of different content areas. The focus of this question centered on whether or not the teachers rated students similarly across subject areas on motivation, overall level of self-determination, and capacity to self-determine. Overall the results of the dependent sample *t*-tests failed to reject the null hypotheses in that there was no significant difference between raters for student motivation ($t = 0.02, p = 0.98$), overall level of self-determination ($t = 1.07, p = 0.29$), and capacity to self-determine ($t = 1.07, p = 0.29$). These results suggest that for this particular sample, teachers of different subject areas do not share divergent views of their

students' motivation and self-determination. This is important because it suggests that teachers may respond with a more domain-general profile when it comes to rating the motivational and self-determined beliefs of students with disabilities. This finding differs from previous research findings, which suggest student motivation varies from course to course (Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991). By suggesting teachers perceive students to have similar levels of motivation and self-determination regardless of subject areas, the findings make a strong case for future research in this area. Further replication of these findings are needed in order to generalize to a larger population as this finding is limited in its scope due to several factors to be discussed later in the chapter (see limitations).

Research also shows both student motivation (Atkinson & Feather, 1966; Gottfried et al., 2001; Schunk et al., 2008) and self-determined capacity and opportunity (Carter et al., 2008; Mason, Field, & Sawilosky, 2004) are related to academic performance. Based on prior research, the third research question addressed the relation between overall levels of motivation and self-determination as well as the capacity to self-determine and student reading scores according to student and teacher perspectives. Overall, results of the single multiple linear regressions indicated no significant relation among these constructs. Specifically, results of the regressions were not significant for student perspective ($F = 0.37$, $p = 0.69$), Math/Science teacher perspective ($F = 0.37$, $p = 0.69$), or English/History teacher perspective ($F = 0.60$, $p = 0.55$). Because these results were not significant, the null hypothesis could not be rejected for the third research question: student motivation and self-determination would be significantly related to student reading achievement. This implies that for this particular sample of students, reading achievement is not related to student

motivation and self-determination, which again does not align with the previous research. Limited statistical power because of a modest sample size ($N = 32$) may have played a role in the lack of significance of some of the regression analyses. As a result of this limited sample size and in accordance with statistical literature (Cohen, 1988) a post-hoc power analysis for each separate multiple regression also was conducted. Results of the power analysis for the student perspective produced a value of 0.1066, indicating an 11% chance of finding a significant effect. Similarly, power analyses for both Math/Science teacher and English/History teacher regressions produced low values of 0.4259 and 0.1499 respectively, reducing the likelihood that a significant effect would be detected due to the modest sample size.

Significance of the Study

The purpose of this study was to examine the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities. As suggested in the preceding literature review (see chapter 2), previous research focuses on the motivation of adolescents with disabilities, as well as self-determination of students with disabilities. However, there are no published studies investigating the relation between these two constructs. Therefore, as suggested by Shavelson and Towne (2002), initial descriptive studies are needed to establish a foundation for future research in the field of special education. This study contributes to the literature because it is among the first studies to examine the relation between motivation and self-determination of adolescent students with disabilities. By investigating this relation and finding that the two constructs are indeed highly correlated establishes the need for additional studies with more generalizable samples of adolescent students with disabilities.

This study also can inform practices involving professional development for classroom teachers in regard to their students' motivation and self-determination. Not only do teachers need to utilize instructional strategies that support students with disabilities, but they also need to engage in language and practices that promote behaviors that can increase student motivation and self-determination. For this particular study, information and results were shared with the school and their faculty to provide the teachers with a general snapshot of their student body's levels of motivation and self-determination. Allowing a faculty to see their students' overall levels of motivation and self-determination can help them identify different areas they might need to emphasize in their future instruction. The significance of this study is twofold (a) to provide information on the motivation and self-determination of adolescent students with disabilities, and (b) to inform teachers with suggestions for future instructional impact.

Significance for Students with Disabilities. All students experience times of transition during their adolescent years and vary as to how they adjust, but students with disabilities experience substantial difficulty with these transitions. Similarly, students have varying experiences with academic achievement and often encounter struggles during their adolescent years, a phenomenon that is particularly common for students with disabilities as they frequently experience a heightened sense of struggle with their academics during this time. It is not surprising that as the literature review has shown, both student motivation (Adelman & Taylor, 1983; DiPerna, 2004; DiPerna & Elliott, 2008) and self-determination (Carter, Lane, Pierson & Stang, 2008; Field, 1996; Wehmeyer, Shogren, Palmer, Williams-Diehm, Little & Boulton, 2012) have been linked to academic achievement as well as

successful transitioning for students with disabilities (Carter et al., 2008; Hoppe, 2004; Korbel, McGuire, Banejee, & Saunders, 2011).

As previously discussed, there has been an increase in research on students with disabilities over the past 20 years. Although this is encouraging for the field, there is still a large gap when comparing the number of studies investigating the motivation and self-determined capacity and opportunity of students with different disabilities. By addressing this lack of research within this specific population in the areas of these two constructs, this study sets the stage for future research to build upon and inform the field of special education regarding the motivation and self-determination of students with disabilities.

Research citing that students with disabilities typically suffer from poor motivational attributes (Adelman & Taylor, 1983, 1990) and poor self-determined capacity and opportunity (Carter et al., 2008) have established this relation as a cause for concern for future researchers. As a result, more attention and research needs to be conducted to create a better understanding of why atypically developing students struggle so much with these two constructs in comparison to their typically developing peers, especially since motivation and self-determination are both vital for development during such a turbulent time. This particular study provides a promising start for the field of research investigating the relation between these two constructs. If the research community can continue to develop the understanding of this relation, then instructional styles and interventions can be geared toward reaching students with disabilities struggling in these areas.

Although this study's sample contains students with a variety of disabilities, the small sample size and lack of power do not allow for any evaluation of differences between disability categories and future research that could investigate this phenomenon. There is

documented evidence that students with different types of disabilities exhibit different levels of academic achievement (Margalit & Roth, 1989), social skills (Gresham, Elliot, & Black, 1987) and self-determined capacity and opportunity (Carter et al., 2006). Therefore it is logical to assume that students with different types of disabilities would vary in their levels of motivation and self-determined capacity and opportunity and with the relation of these two constructs. This observation could be assessed with all three research questions addressed in this study. For example: Do students with higher incidence disabilities tend to have a stronger relation between motivation and self-determined capacity and opportunity than students with lower incidence disabilities? Do teachers of students with higher incidence disabilities rate students more similarly than students with low incidence disabilities? Does the motivation and self-determination of students with lower incidence disabilities predict student academic achievement more than the motivation and self-determination of students with high incidence disabilities? These are all questions that could be assessed in future studies, which could build the body of literature in this field while helping researchers and practitioners increase their knowledge of students with different types of disabilities.

Limitations

This study is the first known investigation into the relation between the motivation and self-determined capacity and opportunity of adolescent-aged students with disabilities. As such, it is a first step toward understanding the relation in which student motivation and self-determined capacity and opportunity can influence, not only student performance in school, but their adjustment to transitions encountered. The main research question established significant evidence of a high correlational relation between the two constructs, supporting the claim for the two to be investigated more thoroughly. Despite these benefits,

there were some limitations restricting the degree to which the study's results can be generalized to a larger population.

The first limitation in this study concerns the sample, both in number and type. Due to a limitation in school access, only 32 adolescent students participated, which limits the ability to generalize to a larger population. Future studies should seek to expand the number of participants and utilize random sample selection procedures in the research design in order to increase the likelihood that the sample represents a larger population of students with disabilities. This study was conducted in a single, private school setting for students with disabilities. This limits the generalizability of findings across students in different settings, such as public school general education settings or self-contained classrooms, as it would be difficult to assume students from those settings would respond similarly to the student sample in this study. Future studies should address this limitation by randomly sampling students from different types of academic settings and schools in order to gain a better understanding of how the adolescent students with disabilities and their teachers respond to these measures. The gender ratio of this sample is also a limitation; of the 32 participants, only six (18.75%) were female. Even though this is consistent with research that suggest males have a significantly higher rate of identification and receive special education services more often than females (Wehmeyer & Schwartz, 2001), future studies should look to include a more equal representation of male and female participants. The sample also lacks variance in ethnicity as 75% ($n = 24$) of the 32 participants were White, non-Hispanic. Future studies should further investigate the claim that there is a disproportionate amount of minorities being served under special education services (Oswald, Coutinho, Best, & Singh, 1999) and collect data with a more ethnically diverse sample.

Because this study is strictly descriptive and lacks any form of causality, the results produced are limited to only reporting whether there is support for the claim that there is a relation between student motivation and self-determined capacity and opportunity. As previously mentioned, it is vital for initial studies to establish a relation between two constructs before causality is investigated (Shavelson & Towne, 2002), however future research should seek to further replicate these findings in a more generalizable sample, and then pursue causality. Some important questions yet to be investigated are: Does an increase in student motivation lead to an increase in student self-determined capacity and opportunity? Does an increase in student self-determined capacity and opportunity lead to an increase in student motivation? Is there a bidirectional relation between the two constructs where they influence each other equally?

Another limitation of this study deals with the measure of motivation. While there are many studies using the *AIR Self-Determination Scale* as a measure of student self-determined capacity and opportunity (e.g., Carter et al., 2006; Carter et al., 2010; Pierson et al., 2008), there are fewer studies using the *ACES* being used as a measure of motivation (e.g. DiPerna, 2004). This study was part of a larger investigation into multiple academic enablers, which used the *ACES* measure because it has been shown to be a reliable and valid measure in populations of students with disabilities (DiPerna & Elliott, 1999). However, because the motivation composite score is only one factor under the heading of academic enablers (see Appendix E), there are two main issues that arise with the measure. The first issue is that because this is only one of the factors of the measure, there is a variety of motivational theory represented in the items. If this was solely a measure of motivation, the design would allow for a more aligned series of items matching the underlying theory. As is,

the items of this factor measuring motivation come from a variety of motivational theories including as previously described, intrinsic motivation, achievement goal theory and attribution theory, which are all represented by questions in the measure. This is an issue because it does not allow researchers to identify a single theory that is addressed by the measure and therefore lacks the ability to be related to previous studies investigating the motivation of students with disabilities. Additionally, because this measure is a measure of student overall motivation in school and is not pertinent to a single subject, the measure lacks in detail and domain-specificity, which could create a muddying effect on the motivation score combining their scores together. In other words, the results of this survey only allow researchers to see a snapshot of a student's motivational profile from either the student or teacher perspective when as previously described, research suggests motivation is domain-specific changing from subject to subject. This measure lacks in-depth questioning regarding student motivation, which could be provided through alternative measures with motivation as the sole construct measured. Future studies should address this through the use of a more detailed and theoretically sound motivational measure in order to more accurately portray the motivation of students with disabilities when it comes to school.

A final limitation of this study deals with the issue that both the *ACES* and the *AIR* measures include items addressing goals. When both measures are correlated that have items addressing the same construct there is a concern that conflation exists, meaning researchers are simply measuring the same construct twice and then correlating them. This conflation could provide inaccurate results as to the overall relation between the measures. As previously mentioned the *ACES* contains a survey item addressing student goal-directed behaviors (e.g., "I set goals for myself in my classes"). The *AIR* also has survey items

addressing student goals (e.g., “I set goals to get what I want or need. I think about what I am good at when I do this”). Although this issue should be mentioned in the discussion of conflation, it should also be noted that the *AIR* items addressing student goals are much more detailed in measuring what students think about their goals, what they plan to do to achieve those goals, and what adjustments they can make toward their goals. The goal-directed behaviors item measured in the *ACES* is a much more simplistic measure of goals and provides only a limited amount of conflation between the measures, which does not particularly threaten the measurement validity of this study. An observation like this should not be considered rare as the theories behind these constructs overlap in certain characteristics, however the measures used in this particular study minimize this effect. Future studies should be aware of this possibility and select measures with items that provide a distinction between the two constructs.

Implications for Future Research & Practice

The findings from this study appear to have potential to stimulate future research in the field of education regarding the motivation and self-determined capacity and opportunity of adolescent students with disabilities. A logical next step for future research in within this focus would be to examine some of the same questions posed in this study using a design maximizing the generalizability of the results to a larger population. A study using a more detailed measure of motivation and a sample more representative of the population of adolescent students with disabilities could inform researchers and practitioners of the relation between these two constructs within this population. Growing out of those results, potential future interventions could be designed that would more appropriately be geared toward increasing these behaviors within students in this population in order to improve academic

performance and successful transitioning. Furthermore, when research in the area of special education is disseminated to practitioners, it could lead to an increase in the acknowledgement that the constructs of motivation and self-determination relate to multiple aspects of an adolescent's life, particularly students with disabilities. Evidence suggests these constructs contribute significantly to student goal-setting, self-advocacy and their ability to take part in their IEP meetings (Council for Exceptional Children, 1998), which can support the development of these students both academically and socially while supporting them through transitions.

Another direction for future research in this field is examining causality between the motivation and self-determined capacity and opportunity of students with disabilities. Once these correlational findings are replicated in a more generalizable sample, researchers can claim with more certainty that these two constructs are related. By using experimental designs and controlling for confounds, researchers can seek to investigate whether increasing motivation causes an increase in self-determined capacity and opportunity, whether increasing self-determined capacity and opportunity causes an increase in motivation, or whether there is a bi-directional relationship where they both influence each other. For example, researchers could use an experimental design with a control and experimental group (e.g. different classrooms within a school) with random assignment to avoid bias. Prior to the intervention researchers could match the experimental and control groups in terms of level of motivation, level of self-determination, grade level, achievement level, gender, and race. Researchers could administer a pre-test to measure current levels of student motivation and self-determined capacity and opportunity. Then researchers could conduct an instructional intervention such as the SDLMI (Wehmeyer, Palmer, Agran,

Mithaug, & Martin, 2000) for the experimental group, while the control group receives typical classroom instruction. After the instruction is complete, researchers could administer a post measure evaluating the same students' level of motivation and self-determined capacity and opportunity. Given the experimental design and controlled confounds, any increase in student motivation could be attributed to the self-determined instructional strategy and provide empirical support for causality. By investigating the causality of these two constructs future researchers could aim to improve student motivation and self-determined capacity and opportunity through these types of interventions, which in turn could improve students' overall school experience and success.

Results from the second research question investigating the difference between raters of teachers in different content areas coupled with the limitations in this measurement should lead to future investigations seeking to reassess this question. Addressing the issue of domain-specificity, researchers should seek to employ more domain-specific measures of motivation to really evaluate motivational profiles of students. By using a more complex motivational measure and placing it within the context of a particular subject, researchers can more accurately assess a student's motivational profile. The motivational survey used in this particular study, although valid and reliable as described by DiPerna and Elliott (1999) did not address student motivation in a domain-specific manner. Instead of asking questions related to student motivation within a specific course context, the survey refers to more domain-general questions investigating student motivation in school overall. By using a more comprehensive measure that's sole purpose is to investigate student motivation and placing it within specific content areas, researchers can more accurately assess the difference in student motivation across subject areas. This could inform future practice because

practitioners would be able to better understand their student's motivational profile when comparing the results of their ratings to another teachers' ratings and in turn more accurately be able to assess their students' motivation.

The final research question poses substantial potential for future research and implications for practitioners. Future researchers should reevaluate this question in order to better assess how student motivation and self-determined capacity and opportunity relate to academic achievement. As previously mentioned, research suggests student motivation (DiPerna & Elliott, 2008; Elbaum & Vaughn, 2001; Grolnick & Ryan, 1990; Zeleke, 2004) and self-determined capacity and opportunity (Carter et al., 2010; Field et al., 1998; Pierson et al., 2008) relate to academic achievement; however, results from this study do not align with those previous findings. Even though these results are limited, they do provide researchers with a need for further investigation. Further investigation into this area would provide researchers the ability to inform future academic-based interventions with a focus on motivation and self-determined capacity and opportunity. This is particularly salient in the field of special education as student academic performance is in need of particular attention (NCLB, 2001). By investigating how these two constructs relate to the academic performance of students with disabilities, researchers can inform future interventions and classroom practice.

Conclusion

The purpose of this study was to examine the relation between the constructs of motivation and self-determined capacity and opportunity within a sample of adolescent students with disabilities. Using a sample of 32 sixth through twelfth-grade students and six teachers, these two constructs were assessed through both student and teacher reports. Using

motivation and self-determination theory as a guiding theoretical framework, researchers also evaluated the relation among these two constructs and student academic performance, as measured by student reading achievement.

The results of this study provide the field with information regarding the relation between the motivation and self-determined capacity and opportunity of adolescent students with disabilities, according to student and teacher perspectives. Specifically, results suggested that (a) student motivation and self-determination were highly correlated according to student and teacher perspectives, (b) there were no significant differences between different teacher ratings of student motivation, overall self-determination and capacity to self-determine their behaviors across different content areas, and (c) student motivation and self-determination did not significantly predict student academic performance. The present findings suggests future research is necessary and critical for better understanding the relation between these two constructs including a causal relation among students with disabilities.

Appendix A: Parental Consent Form

Dear Parent,

Your child is invited to participate in a research project conducted by Kathleen Lane, Ph.D. and Kris Zorigian, M.A. at the School of Education at UNC Chapel Hill. This project, *Motivation and Self-Determination Among Secondary Students*, was designed with the goal of learning more about different skills students have to help them do well in school and life such as problem solving skills, decision making skills, as well as motivation. In particular, we would like to see what types of skills students with a range of abilities have during the middle and high school years. Our goal is to learn about how these students are similar and unique in these areas based on their own views as well as the views of their teachers. This information may be useful in helping researchers and teachers to develop more effective, efficient methods of educating these students.

Procedures and Time Commitments

Your child was selected because he/she attends this particular school. We will not have access to your child's name unless you give your permission for your child to participate. This study involves three parts, so if you allow your child to be in the study, you are giving your permission for these three parts:

- (a) some of your son's or daughter's teachers will complete two questionnaires rating your child's self-determined behaviors and academic motivation,
- (b) your son or daughter will complete two short questionnaires about your child's self-determined behaviors and academic motivation (this will take approximately 40-60 minutes total – one time this spring) at a time determined appropriate by the Head of School so they will not miss too much instruction (they will be allowed to make up an work they might miss during this time), and
- (c) the Head of School will give us some basic demographic information about your child (e.g., gender, ethnicity, grade level, date of birth [which will be used to compute age]), and disability status [primary and secondary labels]) as well as information about your child's academic performance as measured by the Measures of Academic Performance (MAP) which your student completes as part of regular school procedures.

The two surveys your child would complete will be administered to participating students at a time and location at the school (e.g., library or conference room) decided upon by school administrators to minimize the time spent out of class. This information will be collected 1 time, in Spring of 2012.

Benefits and Risks

There are no known risks to you or your child by participating in this study. This project may provide useful information about students as a whole that teachers can use to make instructional decisions. Information about the students as a group, not individually, will also be shared with other educational professionals; no names will be used, not even the

name of the school. The only inconvenience would be the time it would take for your child to complete the two surveys (approximately 40-50 minutes total).

Confidentiality

We will be sharing general information about the students in the school with the school and teachers. Also, we will share what learn with the research community in the form of journal articles. However, we will not be sharing information about specific children to maintain confidentiality. All information will be shared by grouping the data. Your child's information may be shared with the institutional/government authorities, but only if your son or daughter or someone else's child is in danger, or if we are required to do so by law. We do not anticipate that this will happen.

Each student will be assigned a unique identification number. A random unique identification number will also be assigned to participating teachers. A master list of names and identification numbers will remained locked in a filing cabinet separate from the data and will be destroyed at the end of a 2 year period. Data will be stored in locked filing cabinets and on password protected computers.

If you decide you would like a copy of the summary report, simply contact Kathleen Lane at kathleen.lane@unc.edu or at (919) 966-5916 or Kris Zorigian at zorigian@email.unc.edu or at (919) 966-3291. Please include the name of the study mentioned above and your mailing address. Again, only summary information will be presented in the report.

If you choose not to give permission, then we will not invite your child to participate. If you do give permission, your child may still choose not to take part. Either way, if your child does not take part in the study, there will be no penalty or loss of benefits to which either of you are entitled. If you agree and your child agree that your child may take part, you are free to withdraw your child from the project at any time before data analysis begins by calling or emailing us. Likewise, no penalty or loss of benefits to which you or your child are otherwise entitled will occur.

Contact Information

Thank you very much for your willingness to consider allowing your child to participate in this project so that we can better understand the self-determined behaviors and academic motivation of students. To thank the students for their time in completing the study, the will receive a 5 dollar gift card to a store like Walmart or Target or Sonic. If you have any specific questions, please contact Kathleen Lane [(919) 966-5916; kathleen.lane@unc.edu] or, for general questions/concerns about how you or your child was treated in this study, or concerns about participating in research in general, contact the Institutional Review Board of the University of North Carolina at Chapel Hill [(919) 966-3113]. You will be given a copy of this parent permission form to keep for your records.

Respectfully,

Kathleen Lane, Ph.D.

Kris Zorigian, M.A.

Professor

Project Coordinator

Parent's Name: _____

Child's Name: _____

_____ Yes, I agree to allow my child to participate in this project during the 2011-2012 academic year [please sign below].

OR

_____ No, I do not agree to allow my child to participate in this project during the 2011-2012 academic year [please sign below].

Parent Signature

Date

After reviewing and signing this letter, please turn it in to your son or daughter's teacher who will give the permission form to Kathleen Lane of the University of North Carolina at Chapel Hill. Or you can mail it directly to Kathleen Lane in the envelope provided. Please keep the second copy of this permission form for your records.

Appendix B: Student Assent Form

Dear Student:

You are invited to be in a research project that is directed by Kathleen Lane, Ph.D. and Kris Zorigian, M.A. at UNC-Chapel Hill. Our goal is to learn more about how to help middle and high school students be motivated in school. We think that learning ways to set goals, make decisions, and other things like that can help you do well in school.

Your parents have said it is all right for me to invite you to be in this project. Choosing to be in this study is up to you. You may decline to participate even if your parents said it was okay for you to be in it. Nothing bad will happen to you if you choose not to be in it. This study is taking place at your school and will be done before everyone leaves for summer break. Being in the study will not help or hurt your grades, and deciding not to be in the study will not help or hurt your grades.

If you agree to be in this study, we will ask some of your teachers to fill out two surveys about you. To learn how you are doing academically, the Head of the school will share your MAP scores with us. We will ask you to fill out a student version of the same two surveys that some of your teachers are doing. One survey is about how motivated you feel in school and one is about how often you do things like set goals and make decisions.

If you decide to be in the study, you will meet with us one time for about 40-60 minutes to fill these out. We will help you if you need any help. We will tell all the teachers in the school and the parents about what we learn for all students as a group. We will not talk about any student specifically, and we will not share any of the information on your surveys with anyone else—not your teachers and not your parents. We will keep it confidential (safe) by replacing your name with a number on your surveys..

You can talk with your parents if you have any questions about being in the study. If you want to be in the study now but change your mind later, that is okay. Just let your parents, a teacher, or us know if you change your mind before we start analyzing the information from the study.

Thank you for thinking about this. Students who finish this study will be given a 5 dollar gift card to a store like Walmart or Target or Sonic to thank them for their time. If you have any questions about the project, please contact kathleen.lane@unc.edu, (919) 966-5916]. If you have other questions about how you were treated by the researchers in the study, your or your parents can call the Institutional Review Board of the UNC-Chapel Hill [(919) 966-3113.

Thank you,

Kathleen Lane, Ph.D., BCBA-D
Professor

Kris Zorigian, M.A.
Project Coordinator

Printed Name: _____ Signature:

_____ Yes, I agree to be in this project

OR

_____ No, I do not agree to be in this project.

You may keep the second copy of this form to share with your parents.

Appendix C: Teacher Demographic Form

Motivation and Self-Determination Among Secondary Students
Teacher Demographic Form

RETURN TO UNC, Chapel Hill

Teacher Name: _____

School: _____

Grades Teaching: _____

1. What is your gender? ____ Male ____ Female
2. Please check all categories that best describes your ethnicity: ____ American Indian/Alaska Native ____ White, not Hispanic ____ Asian/Pacific Islander ____ Other (specify): _____ ____ Black, not Hispanic ____ Decline ____ Hispanic
3. What is your age? _____
4. How many years have you worked as a teacher (including this year): _____ How many years have you worked at your current school level (middle high school) (including this year): _____
5. What is the primary subject you teach? _____ Are you certified in the subject you teach? _____
6. Are you certified to teach special education? _____

7. What is the highest degree you have earned:

_____ High School Diploma

_____ Associate's Degree

_____ Doctoral Degree

_____ Bachelor's Degree

_____ Master's Degree

Appendix D: Teacher Consent Form

Dear Teacher,

You are invited to participate in a research project conducted by Kathleen Lane, Ph.D. and Kris Zorogian, M.A. at the School of Education at UNC Chapel Hill. This project, *Motivation and Self-Determination Among Secondary Students*, was designed with the goal of learning more about the relation between self-determined behaviors and academic enabling skills such as academic motivation for students with disabilities. We will be focusing our project on students with a range of exceptionalities and learning styles. Our goal is to learn about how these students are similar and unique in these areas based on their own views as well as the views of their teachers. This information may be useful in helping researchers and teachers to develop more effective, efficient methods of educating these students. Participation in this study is completely voluntary and there will be no negative consequences if you choose not to take part in this study.

Procedures and Time Commitments

We would like you to participate in this study by (a) providing some brief information about yourself (e.g., demographic information such as gender, teaching experience, etc.) and (b) completing two surveys [*Academic Competence Evaluation Scale* (ACES Academic Enablers subscale) (approximately 20-30 minutes per student) and the *AIR Self-Determination Scale* (approximately 10-15 minutes per student)] for students who will be assigned to you by the researchers and Head of School. We expect you to rate up to 10 students. How many students you will be asked to rate will depend on how many students take part and how many teachers decide to take part. As an estimate, this could take about 8 hours of your time.

We will also ask parents for their permission to invite their children to complete student versions of the ACES and AIR measures. The students can choose not to participate, even if their parents have agreed. Students will also be asked for their views about their own skill sets. Student will complete these measures in a location on your school site (e.g., school library, empty classrooms, or in a conference room) at a time and place decided upon by your administration. We anticipate that it will take students approximately 40 – 60 minutes to complete their own measures.

We will work with your Head of School to obtain demographic information about students who have decided to participate, including information about their academic performance as measured by the Measures of Academic Performance (MAP) which your student complete as part of regular school procedures. This information will be collected 1 time in Spring of 2012.

Benefits and Risks

There are no known risks to you or your students by participating in this study. This project may provide useful information about the students in this school as a whole that you can use to make instructional decisions. The findings will also be shared by the researchers with other educational professionals, but the data will be about students in the school as a

whole, not about individuals. You can request a summary report of the study after the data has been analyzed. We are also happy to meet with your faculty as a whole group to share our research brief and show you how you can use this information to inform instruction. The only inconvenience involved in participating would be the time necessary for you to complete the rating scales on the students assigned to you.

Confidentiality

We will be sharing general information about the students in the school with the school and teachers. Also, we will share what learn with the research community in the form of journal articles. However, we will not be sharing information about specific children to maintain confidentiality. All information will be shared by grouping the data. Your students' information may be shared with the institutional/government authorities, if your students or someone else's student is in danger, or if we are required to do so by law. We do not anticipate that this will happen.

Each student and teacher in the school will be assigned a unique identification number. All protocols will be labeled with identification numbers and names by the project staff. Once all data are entered in the database, the names will be blacked out with a black marker and only the identification number will remain. A master list of names and identification numbers will remained locked in a filing cabinet separate from the data and will be destroyed at the end of a 2-year period. Data will be stored in locked filing cabinets and on password protected computers.

If you choose not to take part, there will be no penalty or loss of benefits to which you are entitled. If you agree to take part, you are free to withdraw from the project at any time before data analysis begins; you may call or email the research staff. Likewise, no penalty or loss of benefits to which you are otherwise entitled will occur. If you decide you would like a copy of the summary report, simply contact Kathleen Lane at kathleen.lane@unc.edu or at (919) 966-5916 or Kris Zorigian at Zorigian@email.unc.edu or at (919) 966-3291. Please include the name of the study mentioned above and your mailing address.

Contact Information

Thank you very much for your willingness to consider participating in this project so that we can better understand the self-determined behaviors and academic enabling skills (e.g., motivation) of students. To thank you for your time in completing the study, we will give you a 10 dollar gift card to a store like Walmart or Target. If you have any specific questions, please contact Kathleen Lane [(919) 966-5916; kathleen.lane@unc.edu] or, for general questions/concerns how you or your students were treated in this study, or concerns about participating in research in general, contact the Institutional Review Board of the University of North Carolina at Chapel Hill [(919) 966-3113]. You will be given a copy of this consent for your records.

Respectfully,

Kathleen Lane, Ph.D., BCBA-D
Professor

Kris Zorigian, M.A.
Project Coordinator

Teacher's Name: _____

School: _____

_____ Yes, I agree to participate in this project during the 2011-2012 academic year [please sign below].

OR

_____ No, I do not agree to participate in this project during the 2011-2012 academic year [please sign below].

Teacher Signature

After reviewing and signing this letter, please return to Kathleen Lane, Ph.D. of the University of North Carolina at Chapel Hill. Please keep the second copy of this consent form for your records.

Appendix E: ACES – Teacher Form

Academic Competence Evaluation Scales

James C. DiPerna and Stephen N. Elliott



Teacher Form

Student Information

Name _____ Date _____

Birthdate _____ Grade _____ Sex ☐ Male ☐ Female

Reason for Concern _____

Teacher Information

Name _____ School _____ Subject (secondary only) _____

Directions

The Academic Competence Evaluation Scales are designed to assess a student's academic skills and academic enablers (interpersonal skills, motivation, study skills, and engagement). For each item, **two ratings** are required. The first rating describes the **proficiency (or frequency)** of a behavior, skill, or attitude. The second rating describes the **importance** of the behavior, skill, or attitude for academic success in **your** classroom. The ratings of the student's behavior should be representative of the past month.

In the first section of the ACES, you are asked to rate the **proficiency of a student's specific academic skills**. Compare the student with the **grade-level expectations at your school**. Below is an example.

	Far Below	Below	Grade Level	Above	Far Above	Not Important	Important	Critical	N/O
Reading/Language Arts									
1. Reading comprehension	1	2	3	4	5	1	2	3	

For the proficiency rating of the skill, the teacher circled a 2, which indicates that the student's skill is judged to be below grade level expectations. For the importance rating, the teacher circled a 3, indicating this skill is critical to academic success in his or her classroom.

Please do not skip any items. If you have not had an opportunity to observe the skill, make a ✓ in the N/O column.

Scoring Information

After you have completed two ratings for each item, return this record form to the individual responsible for scoring it. Scoring and interpretation of results for planning intervention require the use of the ACES manual.

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Academic Skills

Please rate the student's academic skills in comparison with the **grade-level expectations** at your school. Then rate **how important** the skills are for academic success in your classroom. If you have not had an opportunity to observe a skill, place a ✓ in the N/O column.

Reading/Language Arts	Far Below	Below	Grade Level	Above	Far Above	Not Important	Important	Critical	N/O
1. Reading comprehension	1	2	3	4	5	1	2	3	
2. Word-attack	1	2	3	4	5	1	2	3	
3. Vocabulary	1	2	3	4	5	1	2	3	
4. Identifying a main idea	1	2	3	4	5	1	2	3	
5. Reading fluency	1	2	3	4	5	1	2	3	
6. Spelling	1	2	3	4	5	1	2	3	
7. Punctuation	1	2	3	4	5	1	2	3	
8. Grammar	1	2	3	4	5	1	2	3	
9. Written communication	1	2	3	4	5	1	2	3	
10. Oral communication	1	2	3	4	5	1	2	3	
11. Drawing conclusions from written material	1	2	3	4	5	1	2	3	

Reading/Language Arts Raw Score + + + + =

Mathematics	Far Below	Below	Grade Level	Above	Far Above	Not Important	Important	Critical	N/O
12. Computation	1	2	3	4	5	1	2	3	
13. Pattern analysis	1	2	3	4	5	1	2	3	
14. Measurement	1	2	3	4	5	1	2	3	
15. Understanding of spatial relationships	1	2	3	4	5	1	2	3	
16. Mental math	1	2	3	4	5	1	2	3	
17. Using numbers to solve daily problems	1	2	3	4	5	1	2	3	
18. Breaking down a complex problem	1	2	3	4	5	1	2	3	
19. Problem-solving	1	2	3	4	5	1	2	3	

Mathematics Raw Score + + + + =

Critical Thinking	Far Below	Below	Grade Level	Above	Far Above	Not Important	Important	Critical	N/O
20. Synthesizing related information	1	2	3	4	5	1	2	3	
21. Drawing conclusions from observations	1	2	3	4	5	1	2	3	
22. Comparing similarities or differences among multiple objects or ideas	1	2	3	4	5	1	2	3	
23. Classifying objects or ideas into categories	1	2	3	4	5	1	2	3	
24. Generalizing from information or experiences	1	2	3	4	5	1	2	3	
25. Identifying patterns from information	1	2	3	4	5	1	2	3	
26. Deciding among alternative solutions	1	2	3	4	5	1	2	3	
27. Investigating a problem or issue	1	2	3	4	5	1	2	3	
28. Developing a solution to a problem	1	2	3	4	5	1	2	3	

Grades K-2 Stop Here. Grades 3-12 Continue

29. Identifying specific principles and their applications	1	2	3	4	5	1	2	3	
30. Analyzing errors in information or processes	1	2	3	4	5	1	2	3	
31. Constructing support for or against an issue	1	2	3	4	5	1	2	3	
32. Analyzing supporting and opposing viewpoints	1	2	3	4	5	1	2	3	
33. Testing hypotheses	1	2	3	4	5	1	2	3	

Critical Thinking Raw Score + + + + =

Scoring Rule: If more than two items from a single subscale are not rated, try to get a rating. If a rating cannot be obtained, do not score the subscale.

Academic Enablers

Please rate how frequently the student exhibits the following behaviors, and their importance in your classroom.

Interpersonal Skills	Never	Seldom	Sometimes	Often	Almost Always	Not Important	Important	Critical	N/O
34. Follows classroom rules	1	2	3	4	5	1	2	3	
35. Corrects inappropriate behavior when asked	1	2	3	4	5	1	2	3	
36. Expresses dissatisfaction appropriately	1	2	3	4	5	1	2	3	
37. Accepts suggestions from teachers	1	2	3	4	5	1	2	3	
38. Works effectively in a large group activity	1	2	3	4	5	1	2	3	
39. Interacts appropriately with adults	1	2	3	4	5	1	2	3	
40. Listens to what others have to say	1	2	3	4	5	1	2	3	
41. Gets along with people who are different	1	2	3	4	5	1	2	3	
42. Works effectively in a small group activity	1	2	3	4	5	1	2	3	
43. Interacts appropriately with other students	1	2	3	4	5	1	2	3	

Interpersonal Skills Raw Score + + + + =

Engagement	Never	Seldom	Sometimes	Often	Almost Always	Not Important	Important	Critical	N/O
44. Speaks in class when called upon	1	2	3	4	5	1	2	3	
45. Asks questions about tests or projects	1	2	3	4	5	1	2	3	
46. Participates in class discussions	1	2	3	4	5	1	2	3	
47. Volunteers answers to questions	1	2	3	4	5	1	2	3	
48. Assumes leadership in group situations	1	2	3	4	5	1	2	3	
49. Volunteers to read aloud	1	2	3	4	5	1	2	3	
50. Initiates conversations appropriately	1	2	3	4	5	1	2	3	
51. Asks questions when confused	1	2	3	4	5	1	2	3	

Engagement Raw Score + + + + =

Motivation	Never	Seldom	Sometimes	Often	Almost Always	Not Important	Important	Critical	N/O
52. Is motivated to learn	1	2	3	4	5	1	2	3	
53. Prefers challenging tasks	1	2	3	4	5	1	2	3	
54. Produces high-quality work	1	2	3	4	5	1	2	3	
55. Critically evaluates own work	1	2	3	4	5	1	2	3	
56. Attempts to improve on previous performance	1	2	3	4	5	1	2	3	
57. Makes the most of learning experiences	1	2	3	4	5	1	2	3	
58. Persists when task is difficult	1	2	3	4	5	1	2	3	
59. Looks for ways to academically challenge self	1	2	3	4	5	1	2	3	
60. Assumes responsibility for own learning	1	2	3	4	5	1	2	3	
61. Is goal-oriented	1	2	3	4	5	1	2	3	
62. Stays on task	1	2	3	4	5	1	2	3	

Motivation Raw Score + + + + =

Study Skills	Never	Seldom	Sometimes	Often	Almost Always	Not Important	Important	Critical	N/O
63. Completes homework	1	2	3	4	5	1	2	3	
64. Corrects own work	1	2	3	4	5	1	2	3	
65. Finishes class work on time	1	2	3	4	5	1	2	3	
66. Prepares for tests	1	2	3	4	5	1	2	3	
67. Prepares for class	1	2	3	4	5	1	2	3	
68. Turns in homework on time	1	2	3	4	5	1	2	3	
69. Takes care of materials (e.g., textbooks, desk)	1	2	3	4	5	1	2	3	
70. Pays attention in class	1	2	3	4	5	1	2	3	
71. Completes assignments according to directions	1	2	3	4	5	1	2	3	
72. Takes notes in class (Grades 3–12 only)	1	2	3	4	5	1	2	3	
73. Reviews materials (Grades 3–12 only)	1	2	3	4	5	1	2	3	

Study Skills Raw Score + + + + =

Scoring Rule: If more than two items from a single subscale are not rated, try to get a rating. If a rating cannot be obtained, do not score the subscale.

3

Academic Enablers Total Raw Score

Scoring Summary

KEY: Developing Competent Advanced Cut point

Transfer the student's raw score from the record form to the Raw Score Column. Then, use Confidence Intervals to create a 90% confidence band around the student's raw score. Plot the confidence bands on the Competence Continuum for each scale and subscale. Skills with bands falling in the *Developing* range represent potential targets for intervention, and skills with bands in the *Advanced* range represent strengths. Refer to the Appendices in the ACES manual for Deciles and 95% Confidence Intervals.

	Academic Skills	Raw Score	CI 90%	Competence Continuum					Decile
				Far Below	Below	Grade Level	Above	Far Above	
Grades K-2	Total Score		± 4	28	56	84	112	140	
	Reading/Language Arts		± 3	11	22	33	44	55	
	Mathematics		± 2	8	16	24	32	40	
	Critical Thinking		± 2	9	18	27	36	45	
	Academic Enablers			Never	Seldom	Sometimes	Often	Almost Always	Decile
	Total Score		± 7	38	76	114	152	190	
	Interpersonal Skills		± 3	10	20	30	40	50	
	Engagement		± 3	8	16	23	32	41	
	Motivation		± 3	11	22	33	44	55	
	Study Skills		± 3	9	18	27	36	45	
Grades 3-5	Total Score		± 5	33	66	99	132	165	
	Reading/Language Arts		± 2	11	22	33	44	55	
	Mathematics		± 2	8	16	24	32	40	
	Critical Thinking		± 3	14	28	42	56	70	
	Academic Enablers			Never	Seldom	Sometimes	Often	Almost Always	Decile
	Total Score		± 8	40	80	120	160	200	
	Interpersonal Skills		± 2	10	20	30	40	50	
	Engagement		± 3	8	16	22	32	40	
	Motivation		± 3	11	22	33	44	55	
	Study Skills		± 3	11	22	32	44	53	
Grades 6-8	Total Score		± 5	33	66	99	132	165	
	Reading/Language Arts		± 2	11	22	33	44	55	
	Mathematics		± 2	8	16	24	32	40	
	Critical Thinking		± 2	14	28	42	56	70	
	Academic Enablers			Never	Seldom	Sometimes	Often	Almost Always	Decile
	Total Score		± 6	40	80	120	160	200	
	Interpersonal Skills		± 3	10	20	30	40	50	
	Engagement		± 3	8	16	24	32	40	
	Motivation		± 3	11	22	33	44	55	
	Study Skills		± 3	11	22	29	44	54	
Grades 9-12	Total Score		± 5	33	66	99	132	165	
	Reading/Language Arts		± 2	11	22	33	44	55	
	Mathematics		± 2	8	16	24	32	40	
	Critical Thinking		± 2	14	28	42	56	70	
	Academic Enablers			Never	Seldom	Sometimes	Often	Almost Always	Decile
	Total Score		± 6	40	80	120	160	200	
	Interpersonal Skills		± 2	10	20	30	40	50	
	Engagement		± 3	8	16	20	32	40	
	Motivation		± 3	11	22	25	44	51	
	Study Skills		± 3	11	22	31	44	55	



Student's Name _____ Grade _____ Teacher _____

Date of intervention planning _____

Linking Assessment Results to Intervention

The completion of an ACES-Teacher rating form is the start of a five-step problem-solving process that leads to the design and evaluation of an intervention for improving a student's academic competence. The first three steps of this process are accomplished by interpreting ACES ratings, reviewing the student's instructional environment, and using results to design a Goal Attainment Scale (GAS). (The AIMS Intervention forms and ACES Scoring Assistant® can be used to facilitate this process.)

STEP 1. Identify Concerns: Use the ACES Behavior Classification Scheme for identifying strengths, performance problems, and acquisition problems in the academic skills domain. Begin with the Academic Skills subscales, record those items that meet the rating-based definitions for academic strengths, performance problems, and acquisition problems to identify and prioritize skills for intervention. Next, repeat this process for items on the Academic Enablers subscales.

Academic Skills	Reading/Language Arts Items 1–11	Mathematics Items 12–19	Critical Thinking Items 20–33
Strengths			
Proficiency = 3, 4, or 5			
Importance = 3			
Performance Problems			
Proficiency = 2			
Importance = 2 or 3			
Acquisition Problems			
Proficiency = 1			
Importance = 2 or 3			

Academic Enablers	Interpersonal Items 34–43	Engagement Items 44–51	Motivation Items 52–62	Study Skills Items 63–73
Strengths				
Frequency = 4 or 5				
Importance = 3				
Performance Problems				
Frequency = 3				
Importance = 2 or 3				
Acquisition Problems				
Frequency = 1 or 2				
Importance = 2 or 3				

STEP 2. Analyze Concerns: Select a target behavior or behaviors and define them in objective terms so they can be read, repeated and accurately paraphrased.

Target Behavior(s): _____

Next, describe the instructional environment where the student is having difficulty. The AIMS Teacher, Parent, and Student Intervention Forms can be used to help assess the relationships between the target behavior(s) and instructional variables.

Instructional Environment: _____

STEP 3. Plan Intervention: First, establish your intervention goal defining the desired behavior in concrete terms. In some cases, the target behavior and the desired behavior will be the same. Then describe the general intervention strategy that will be used to achieve this goal. Finally, create a Goal Attainment Scale (GAS) to monitor progress and the effectiveness of the intervention.

Intervention Goal and Desired Behavior: _____

General Intervention Strategy: _____

GAS with Descriptive Criteria for Monitoring Behavior Change

+2	_____

+1	_____

0	_____

-1	_____

-2	_____

STEP 4. Implement Intervention: Consult the Academic Intervention Monitoring System (AIMS) guidebook or other resources that provide guidance in selecting and implementing interventions for academic difficulties.

STEP 5. Evaluate Intervention: Use the GAS graph below to monitor the student's progress during the intervention. Then re-administer an ACES at the conclusion of the intervention to document intervention outcomes.

Graph of Intervention Results

GAS Rating	+2									
	+1									
	0									
	-1									
	-2									
		1	2	3	4	5	6	7	8	9
Day/Week										

Day/Week

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6

ACES
 Academic Competence
 Evaluation Scales®

Appendix F: AIR Teacher Form

AIR Self-Determination Scale® EDUCATOR FORM

Student's Name _____ Date _____

Date of Birth (or age) _____ Grade _____ ☐ Female ☐ Male

Educator's Name _____

School Name _____

HOW TO FILL OUT THIS FORM

Each page of this form lists characteristics and behaviors that indicate the degree to which your student demonstrates traits of self-determination and the degree to which the people influencing your student provides opportunities that foster self-determination. For each item, select the appropriate rating code based on what you have observed about your student. An example is provided to illustrate each characteristic. Feel free to write in a different example that supports your rating for your student.

Here is an example of how you should mark your answers.

EXAMPLE QUESTION:

Student checks for errors after completing a project.

EXAMPLE ANSWER:

Check the box of the rating code which tells what your student is most like:
(Check **ONLY ONE** box per question).

- 1 **Never**.....student **never** checks for errors.
- 2 **Almost Never**.....student **almost never** checks for errors.
- 3 **Sometimes**.....student **sometimes** checks for errors.
- 4 **Almost Always**.....student **almost always** checks for errors.
- 5 **Always**.....student **always** checks for errors.

©The AIR Self-Determination Scale was developed by the American Institute for Research (AIR), in collaboration with Teachers College, Columbia University, with funding from the U. S. Department of Education, Office of Special Education Programs (OSEP), under cooperative agreement H023J200005.

KNOWLEDGE of Self-Determination Behaviors

1. Student knows own abilities and limitations. <i>Example:</i> James can identify his personal strengths and talents, such as his musical ability as well as areas in which he needs improvement, like his below average math problem-solving skills.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
2. Student knows how to set expectations and goals that satisfy own interests and needs. <i>Example:</i> Lee wants to attend college and knows that to get good grades, she needs to work hard on her assignments and complete them on time.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Knowledge Total: Items 1+2					
3. Student knows how to make choices, decisions, and plans to meet own goals and expectations. <i>Example:</i> When making plans to meet her goals, Lynn knows how to identify various strategies, weigh the pros and cons, and follow through.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
4. Student knows how to take actions to complete own plans successfully. <i>Example:</i> Kenneth knows how to follow through on a scheduled plan to complete his work accurately and on time.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Knowledge Total: Items 3+4					
5. Student knows how to evaluate results of actions to determine what was effective. <i>Example:</i> Germaine knows what questions to ask to find out how well she is doing.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
6. Student knows how to change actions or plans to meet goals and satisfy needs and wants. <i>Example:</i> Jose understands that to get an A in math, he may need to study one hour every night; if that doesn't work he may have to work two hours every night; and if that doesn't work he may have to learn to study more effectively.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Knowledge Total: Items 5+6					

Please go on to the next page⇒

ABILITY to Perform Self-Determination Behaviors

1. Student expresses own interests, needs, and abilities. <i>Example:</i> Sarah communicates her athletic interest and talent in conversations, written journals, or participation in sports activities.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
2. Student sets expectations and goals that will satisfy own interests needs, and wants. <i>Example:</i> Loving to spend time drawing and doing art, Daniel sets the goal of finding art classes that he can take after school once a week.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Ability Total: Items 1+2					
3. Student knows how to make choices, decisions, and plans to meet own goals and expectations. <i>Example:</i> Anna weighed the pros and cons of doing three types of history projects, chose to write a research report, outlined the report, and made a schedule for completing the report on time.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
4. Student initiates actions on own choices and plans. <i>Example:</i> Ming begins work right away each time he gets an assignment or is asked by someone to help with a project.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Ability Total: Items 3+4					
5. Student gathers information on results of actions. <i>Example:</i> After completing her work, Theresa checks it for errors and asks others to look it over and make suggestions.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
6. Student changes own actions or plans to satisfy expectations and goals, if necessary. <i>Example:</i> Ricardo tries different approaches to solve problems and to complete tasks that are difficult for him.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Ability Total: Items 5+6					

Please go on to the next page⇒

**PERCEPTION of Knowledge and Ability to Perform
Self-Determination Behaviors**

1. Student feels free to express own needs, interests, and abilities, even when facing opposition from others. <i>Example:</i> Fran defends her needs and interests to anyone who questions them.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
2. Student feels free to set own goals and expectations, even if they are different from the expectations others have for the student. <i>Example:</i> Trevor does not feel constrained by others' opinions in setting goals and expectations for himself.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
Perception Total: Items 1+2					
3. Student feels free to make own choices, decisions, and plans to meet own goals and expectations. <i>Example:</i> Corine often considers her parents' suggestions when making choices and plans, but the final plans taken to meet her goals are her own.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
4. Student feels confident about being able to successfully complete own plans. <i>Example:</i> When Nicholas schedules his own activities, he is confident he can complete them accurately and on time.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
Perception Total: Items 3+4					
5. Student is confident about using feedback to evaluate results of own work. <i>Example:</i> Amanda is confident that she will be able to benefit from the feedback she receives from her parents, teachers, and peers.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
6. Student changes plans again and again to meet a goal without getting discouraged. <i>Example:</i> Levar is motivated to work on a project as long as it takes, using whatever approaches are necessary, to get it right.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
Perception Total: Items 5+6					

Please go on to the next page⇒

OPPORTUNITY To Perform Self-Determination Behaviors AT SCHOOL

1. Student has opportunities at school to explore, express, and feel good about own needs, interests, and abilities. <i>Example:</i> Christine's teachers encourage her to talk about her athletic interests and abilities and about what sports activities she wants to do.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
2. Student has opportunities at school to identify goals and expectations that will meet his or her needs, interests, and abilities; to set these goals; and to feel good about them. <i>Example:</i> Troy's teachers let him know that he is responsible for setting his own goals to get his needs and wants met.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
Opportunity at School Total: Items 1+2					
3. Student has opportunities at school to learn about making choices and plans, to make them, and to feel good about them. <i>Example:</i> Shebra's teachers allow her to make her own choices and plans for school assignments, family chores, and leisure activities.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
4. Student has opportunities at school to initiate actions to meet expectations and goals. <i>Example:</i> Manuel's teachers tell him that he is responsible for scheduling study time and for handing in assignments on time.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
Opportunity at School Total: Items 3+4					
5. Student has opportunities at school to get results of actions taken to meet own plans. <i>Example:</i> Michelle's teachers are available to give feedback on projects whenever she needs it.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
6. Student has opportunities at school to change actions and plans to satisfy own expectations. <i>Example:</i> Laurent's teacher encouraged him to take his time and to revise his work as often as necessary to satisfy his own expectations.	Never	Almost Never	Sometimes	Almost Always	Always
	1	2	3	4	5
Opportunity at School Total: Items 5+6					

Please go on to the next page⇒

OPPORTUNITY To Perform Self-Determination Behaviors AT HOME

1. Student has opportunities at home to explore, express, and feel good about own needs, interests, and abilities. <i>Example:</i> Maria's parents encourage her to talk about her athletic interests and abilities and about what sports activities she wants to do.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
2. Student has opportunities at home to identify goals and expectations that will meet his or her needs, interests, and abilities; to set these goals; and to feel good about them. <i>Example:</i> Roberto's parents let him know that he is responsible for setting his own goals to get his needs and wants met.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Opportunity at Home Total: Items 1+2					
3. Student has opportunities at home to learn about making choices and plans, to make them, and to feel good about them. <i>Example:</i> Kelly's parents allow her to make her own choices and plans for school assignments, family chores, and leisure activities.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
4. Student has opportunities at home to initiate actions to meet expectations and goals. <i>Example:</i> Anthony's parents tell him that he is responsible for scheduling study time and for handing in assignments on time.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Opportunity at Home Total: Items 3+4					
5. Student has opportunities at home to get results of actions taken to meet own plans. <i>Example:</i> Thuy's parents are available to give feedback on projects whenever she needs it.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
6. Student has opportunities at home to change actions and plans to satisfy own expectations. <i>Example:</i> Stacy's parents encourage him to take his time and to revise his work as often as necessary to satisfy his own expectations.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Opportunity at Home Total: Items 5+6					

Please go on to the next page⇒

PLEASE WRITE YOUR ANSWERS TO THE FOLLOWING QUESTIONS IN THE SPACES BELOW.

Give an example of a goal the student is working on.

What is the student doing to reach this goal?

How is the student doing in reaching this goal?

Thank you.

Educator Form

Capacity

Date _____

(Write sum in box and mark in column)

Appendix G: ACES – Student Form



About My Learning

James C. DiPerna and Stephen N. Elliott

Student Form

Student Name _____ School _____

Today's Date _____ Date of Birth _____ Grade _____

Please answer each of the questions below before you begin (optional):

1. My favorite class this year is _____
2. My most difficult class this year is _____
3. The people who help me with my difficult classes are _____

Directions

This form lists many skills that students use in school. Please read each sentence and think about yourself, then decide how often you use the skill.

- If you **never** use the skill, circle 1
 If you **seldom** use the skill, circle 2
 If you **sometimes** use the skill, circle 3
 If you **often** use the skill, circle 4
 If you **almost always** use the skill, circle 5

Never	Seldom	Sometimes	Often	Almost Always
①	2	3	4	5
1	②	3	4	5
1	2	③	4	5
1	2	3	④	5
1	2	3	4	⑤

Below is an example.

I correctly spell words without assistance

Never	Seldom	Sometimes	Often	Almost Always
1	②	3	4	5

The student circled a 2, which means that he or she **seldom** spells words correctly without help from a parent, teacher, or dictionary.

Please be sure to answer all of the questions on the following pages. There are no right or wrong answers, just your ideas about how often you use these skills.

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Academic Skills

Reading/Language Arts Skills	Never	Seldom	Sometimes	Often	Almost Always
1. I understand what I read	1	2	3	4	5
2. I try to read unfamiliar words by sounding out each of the letters separately to myself	1	2	3	4	5
3. I know the meaning of many words	1	2	3	4	5
4. I identify the main idea of what I am reading	1	2	3	4	5
5. I read at a steady pace	1	2	3	4	5
6. I correctly spell words without assistance	1	2	3	4	5
7. I use punctuation (periods, commas, etc.) correctly	1	2	3	4	5
8. I use grammar (verb tense, noun-verb agreement, etc.) correctly	1	2	3	4	5
9. Other people understand what I write	1	2	3	4	5
10. Other people understand what I mean when I speak	1	2	3	4	5
11. I learn from what I read	1	2	3	4	5

(for office use only) R/LA RS + + + + =

Mathematics Skills	Never	Seldom	Sometimes	Often	Almost Always
12. I solve math problems correctly	1	2	3	4	5
13. I measure length, volume, and area accurately	1	2	3	4	5
14. I recognize similarities between shapes or objects	1	2	3	4	5
15. I correctly solve math problems in my head	1	2	3	4	5
16. I use my math skills in my day-to-day life	1	2	3	4	5
17. I break difficult problems down into many different steps	1	2	3	4	5
18. I know which rules to use to solve a problem	1	2	3	4	5

(for office use only) M RS + + + + =

Critical Thinking Skills	Never	Seldom	Sometimes	Often	Almost Always
19. I understand how learning something new fits with what I already know	1	2	3	4	5
20. I learn from watching or listening to what happens around me	1	2	3	4	5
21. I compare similarities or differences among things or ideas	1	2	3	4	5
22. I organize objects or ideas into categories	1	2	3	4	5
23. I use what I already know to solve new problems	1	2	3	4	5
24. I identify mistakes in information	1	2	3	4	5
25. I can list reasons for or against an opinion	1	2	3	4	5
26. I identify patterns from information	1	2	3	4	5
27. I examine both sides of an argument	1	2	3	4	5
28. I explore problems or issues	1	2	3	4	5
29. I develop good solutions to problems	1	2	3	4	5
30. I test hypotheses	1	2	3	4	5

(for office use only) CT RS + + + + =

(for office use only) AS RS

Academic Enablers

Interpersonal Skills	Never	Seldom	Sometimes	Often	Almost Always
31. I follow classroom rules	1	2	3	4	5
32. I am able to correct my behavior when my teacher asks	1	2	3	4	5
33. I tell people when I am unhappy about something	1	2	3	4	5
34. I listen to suggestions from my teacher	1	2	3	4	5
35. I work well in large groups of students	1	2	3	4	5
36. I get along well with other adults in the classroom	1	2	3	4	5
37. I listen to what others have to say	1	2	3	4	5
38. I get along with people who are different from me	1	2	3	4	5
39. I work effectively in small groups of students	1	2	3	4	5
40. I get along well with other students in my class	1	2	3	4	5

(for office use only) IP RS ☐ + ☐ + ☐ + ☐ + ☐ =

Engagement	Never	Seldom	Sometimes	Often	Almost Always
41. I ask questions about tests or projects	1	2	3	4	5
42. I participate in class discussions	1	2	3	4	5
43. I volunteer an answer when I think I am right	1	2	3	4	5
44. I am a leader in my class	1	2	3	4	5
45. I volunteer to read aloud in class	1	2	3	4	5
46. I start conversations with my classmates	1	2	3	4	5
47. I ask questions when I am confused	1	2	3	4	5
48. I share my ideas when my teacher calls on me	1	2	3	4	5

(for office use only) EG RS ☐ + ☐ + ☐ + ☐ + ☐ =

Motivation	Never	Seldom	Sometimes	Often	Almost Always
49. I like to learn about new things	1	2	3	4	5
50. I like assignments that challenge me	1	2	3	4	5
51. I try to produce good work	1	2	3	4	5
52. I try to improve my work with each assignment	1	2	3	4	5
53. I try my hardest on everything I do in school	1	2	3	4	5
54. I look for ways to challenge myself in school	1	2	3	4	5
55. I hold myself responsible for my own learning	1	2	3	4	5
56. I set goals for myself in my classes	1	2	3	4	5
57. I stay on task when doing schoolwork	1	2	3	4	5

(for office use only) MV RS ☐ + ☐ + ☐ + ☐ + ☐ =

Study Skills	Never	Seldom	Sometimes	Often	Almost Always
58. I complete my homework	1	2	3	4	5
59. I correct my own work without being asked	1	2	3	4	5
60. I turn in my class work on time	1	2	3	4	5
61. I take notes in class	1	2	3	4	5
62. I review my class materials	1	2	3	4	5
63. I turn in my homework on time	1	2	3	4	5
64. I take care of my materials (books, desk(s), and locker)	1	2	3	4	5
65. I follow directions on assignments	1	2	3	4	5
66. I study for tests	1	2	3	4	5
67. I prepare for class	1	2	3	4	5
68. I pay attention in class	1	2	3	4	5

(for office use only) SS RS ☐ + ☐ + ☐ + ☐ + ☐ =

Appendix H: AIR Student Form

AIR Self-Determination Scale®

STUDENT FORM

Student's Name _____ Date _____

School Name _____ Your Grade _____

Your Date of Birth _____
Month Day Year

HOW TO FILL OUT THIS FORM

Please answer these questions about how you go about getting what you want or need. This may occur at school, or after school, or it could be related to your friends, your family, or a job or hobby you have.

This is not a Test. There are no right or wrong answers. The questions will help you learn about what you do well and where you may need help.

Goal You may not be sure what some of the words in the questions mean. For example, the word **goal** is used a lot. A **goal is something you want to get or achieve**, either now or next week or in the distant future, like when you are an adult. You can have many different kinds of goals. You could have a goal that has to do with school (like getting a good grade on a test or graduating from high school). You could have a goal of saving money to buy something (a new iPod® or new sneakers), or doing better in sports (getting on the basketball team). Each person's goals are different because each person has different things that they want or need or that they are good at.

Plan Another word that is used in some of the questions is **plan**. A **plan is the way you decide to meet your goal, or the steps you need to take in order to get what you want or need**. Like goals, you can have many different kinds of plans. An example of a plan to meet the goal of getting on the basketball team would be: to get better by shooting more baskets at home after school, to play basketball with friends on the weekend, to listen to the coach when the team practices, and to watch the pros play basketball on TV.

The AIR Self-Determination Scale was developed by the American Institutes for Research (AIR), in collaboration with Teachers College, Columbia University, with funding from the U.S. Department of Education, Office of Special Education Programs (OSEP), under Cooperative Agreement HO23J200005

HOW TO MARK YOUR ANSWERS

EXAMPLE QUESTION:

I check for errors after completing a project.

EXAMPLE ANSWER:

Circle the number of the answer which tells what you are most like:
(Circle **ONLY ONE** number).

- 1 **Never**.....student **never** checks for errors.
- 2 **Almost Never**.....student **almost never** checks for errors.
- 3 **Sometimes**.....student **sometimes** checks for errors.
- 4 **Almost Always**.....student **almost always** checks for errors.
- 5 **Always**.....student **always** checks for errors.

REMEMBER

There are NO right or wrong answers.

This will not affect your grade. So please think about each question carefully before you circle your answer.

THINGS I DO

1. I know what I need, what I like, and what I'm good at.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
2. I set goals to get what I want or need. I think about what I am good at when I do this.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Things I Do – Total Items 1 + 2					
3. I figure out how to meet my goals. I make plans and decide what I should do.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
4. I begin working on my plans to meet my goals as soon as possible.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Things I Do – Total Items 3 + 4					
5. I check how I'm doing when I'm working on my plan. If I need to, I ask others what they think of how I'm doing.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
6. If my plan doesn't work, I try another one to meet my goals.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
Things I Do – Total Items 5 + 6					

Please go on to the next page ⇒

HOW I FEEL

1. I feel good about what I like, what I want, and what I need to do.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
2. I believe that I can set goals to get what I want.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
How I Feel – Total Items 1 + 2					
3. I like to make plans to meet my goals.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
4. I like to begin working on my plans right away.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
How I Feel – Total Items 3 + 4					
5. I like to check on how well I'm doing in meeting my goals.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
6. I am willing to try another way if it helps me to meet my goals.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
How I Feel – Total Items 5 + 6					

Please go on to the next page ⇒

WHAT HAPPENS AT SCHOOL

1. People at school listen to me when I talk about what I want, what I need, or what I'm good at.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
2. People at school let me know that I can set my own goals to get what I want or need.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
What Happens at School – Total Items 1 + 2					
3. At school, I have learned how to make plans to meet my goals and to feel good about them.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
4. People at school encourage me to start working on my plans right away.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
What Happens at School – Total Items 3 + 4					
5. I have someone at school who can tell me if I am meeting my goals.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
6. People at school understand when I have to change my plan to meet my goals. They offer advice and encourage me when I'm doing this.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
What Happens at School – Total Items 5 + 6					

Please go on to the next page ⇒

WHAT HAPPENS AT HOME

1. People at home listen to me when I talk about what I want, what I need, or what I'm good at.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
2. People at home let me know that I can set my own goals to get what I want or need.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
What Happens at Home – Total Items 1 + 2					
3. At home, I have learned how to make plans to meet my goals and to feel good about them.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
4. People at home encourage me to start working on my plans right away.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
What Happens at Home – Total Items 3 + 4					
5. I have someone at home who can tell me if I am meeting my goals.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
6. People at home understand when I have to change my plan to meet my goals. They offer advice and encourage me when I'm doing this.	Never 1	Almost Never 2	Sometimes 3	Almost Always 4	Always 5
What Happens at Home – Total Items 5 + 6					

Please go on to the next page ⇒

PLEASE WRITE YOUR ANSWERS TO THE FOLLOWING QUESTIONS...

Give an example of a goal you are working on.

What are you doing to reach this goal?

How well are you doing in reaching this goal?

THANK YOU!

The AIR Self-Determination Profile Student Form

Items	Think Do Adjust			Think Do Adjust		
	1-2	3-4	5-6	1-2	3-4	5-6
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Things I Do

How I Feel

Total

Items	Think Do Adjust			Think Do Adjust		
	1-2	3-4	5-6	1-2	3-4	5-6
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

What Happens at School

What Happens at Home

Total



Capacity

Opportunity

=

Level of Self-Determination

Name _____ Date _____

(Write sum in box and mark in column)

8 AIR Self-Determination Scale, Student Form

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