EXECUTIVE FUNCTIONING INTERVENTION FOR MIDDLE SCHOOL STUDENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

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EXECUTIVE FUNCTIONING INTERVENTION FOR MIDDLE SCHOOL

STUDENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

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ABSTRACT

EXECUTIVE FUNCTIONING INTERVENTION FOR MIDDLE SCHOOL STUDENTS WITH ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

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Students with ADHD often struggle with executive functioning (EF) skill deficits. In this study, three eighth grade students who were identified with ADHD participated in an eight-week intervention which focused on improving EF skills in organization, time management, and planning skills through a coaching model. Each student completed the Behavior Rating Inventory of Executive Function, Second Edition (BRIEF-2) before and after the intervention period to examine their self-perception of their EF skills. Additionally, students' quarterly grades were examined before and after intervention to examine the impact of directly teaching EF skills to their academic achievement. Results did not support the idea that that the coaching strategy alone improved academic achievement. Suggestions were made for future research.

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CHAPTER I

INTRODUCTION

One in ten adolescents has been diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD), making it one of the most commonly diagnosed disorders in childhood (Center for Disease Control and Prevention [CDC], 2017). Perhaps the most recognizable symptoms of ADHD are difficulty staying focused and on task, frequently making impulsive decisions, and difficulty sitting still (American Psychiatric Association, 2013). However, the majority of children with ADHD also struggle with executive functioning skills. Executive functioning skills are higher-order cognitive processes needed to successfully engage in goal-directed behavior; for example, allowing us to make decisions, plan ahead, and manage our time (Becker & Langberg, 2013; Molitor et al., 2016).

While psychotropic medication, such as Adderall and Concerta, help with inattention and hyperactivity, it does not address cognitive issues, such as deficits in executive functioning skills (Boyer, Geurts, Prins, & Van der Oord, 2015). Most people develop these skills as they get older; however, some students need direct instruction to learn how to plan, organize and manage their time.

Currently, there is a scarcity of research examining the effectiveness of interventions for students with ADHD at the secondary level. The majority of published studies focus on elementary aged students, even though executive functioning (EF) skills continue to develop well into adolescence. Not only are EF skills still developing, but middle school and high school require more organizational and planning skills than previous grades. Students take multiple classes with different teachers and face challenges include planning ahead for long-term projects, organizing materials between different classes, and planning study time around extra-curricular activities. Time management is critical at this age, and students who struggle with these skills can quickly fall behind without the right supports. Thus, the purpose of the present study is to examine the effects of teaching organizational, time management and planning skills on academic achievement to middle school students identified with ADHD and EF deficits.

CHAPTER II

LITERATURE REVIEW

This literature review begins by defining Attention-Deficit/Hyperactivity Disorder (ADHD) and discusses challenges faced by middle and high school students with this diagnosis. Next, the review describes executive functioning (EF) skills, which are often impaired in students with ADHD. The sections to follow review current research-based interventions and programs for students with ADHD and impaired EF. Specifically, this literature review focuses on interventions for students who struggle with organization, time management, and planning (OTMP) skills.

Attention-Deficit/Hyperactivity Disorder

ADHD was first acknowledged in the second edition of the Diagnostic and Statistical Manual of Mental Disorders *(DSM-II)* in 1968, originally identified as Hyperkinetic Reaction of Childhood; at that time, the diagnosis focused on excessive motor activity (Epstein & Lore, 2013). When the *DSM-III* was published in 1980, it was renamed Attention Deficit Disorder, or ADD, and was categorized as a disruptive behavior disorder. Primarily, the focus of an ADD diagnosis was inattention and impulsivity, and it could occur with or without hyperactivity. The term we know it as

today, Attention-Deficit/Hyperactivity Disorder, was introduced in 1987 with the publication of the *DSM-III-R;* at that time, the term "ADD" was eliminated. ADHD was identified as a disruptive behavior disorder that can involve inattention and/or hyperactivity/impulsiveness (Graham, 2017). According to the current DSM-5, ADHD is classified as a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development (American Psychiatric Association, 2013). In order to be diagnosed, there must be several inattentive or hyperactive-impulsive symptoms present prior to the age of 12, and they must be present in more than one setting (i.e. school, work, home, etc.).

According to the Centers for Disease Control and Prevention (CDC, 2017), approximately 11% of children aged 4-17 have been diagnosed with ADHD. This number was found through parent reports in 2012, and has increased from 9.5% in 2007. Common treatments for ADHD include behavior therapy and medication, but the preferred and most effective treatment is a combination of behavior therapy and medication simultaneously (Visser et. al, 2014). More information from the CDC report in 2013 shows that nine out of ten children with an ADHD diagnosis receive treatment, four out of ten take medication alone, one out of ten receives only behavior therapy, three out of ten receive therapy and take medication, and one out of ten receives neither therapy nor takes medication (CDC, 2017). While medication helps narrow focus and lower activity levels, it typically does not help executive functioning deficits related to organization, time management, and planning (Visser et. al, 2014; Ahmann, Saviet, & Tuttle, 2017).

Executive Functioning Skills

Executive functioning (EF) refers to higher order cognitive processes which allow us to make decisions, stay organized, plan ahead, and adapt to changes in our environment (Samuels, Tournaki, Blackman, & Zilinski, 2016). Our executive functioning skills emerge in early childhood and continue to develop throughout adolescence. During adolescence, our memory capacity grows, we develop stronger reasoning and abstract thinking abilities, and learn how to be self-aware and self-regulate our behaviors and actions (Bindman & Pomerantz, 2015; Hodgkinson & Parks, 2016). Things we do every day rely on the use of EF skills. Making decisions, managing a daily schedule, showing up to work, starting and completing homework, making weekend plans, controlling anger and other emotions all rely on executive skills (Grieve, Webne-Behrman, Couillou, & Sieben-Schneider, 2014).

EF skills develop early in life, with the first skills developing between 6-12 months (Guare, Dawson, & Guare, 2013). These initial executive abilities include emotion control, attention, and working memory. New skills continue to emerge throughout childhood and adolescence, with the more complex skills being the last to develop. While EF skills can be observed to continue developing as children age, EF has been found to develop rapidly throughout preschool, but more slowly during adolescence (Samuels et al., 2016). Guare et al. (2013) identify the following categories of executive skills in order of emergence: response inhibition, working memory, emotional control,

flexibility, sustained attention, task initiation, planning/prioritization, organization, time management, goal-directed persistence, and metacognition.

While the combination of all EF skills is important to academic success, the intervention in the current study focuses specifically on organization, time management, and planning (OTMP) skills. Other EF skills might be incorporated during the intervention because they are all closely connected; however, only OTMP skills will be evaluated. For the purpose of this study, o*rganization skills* are defined as the ability to create and maintain systems to keep track of information and materials, *time management skills* are defined as the capacity to estimate how much time one has, how to allocate it, and how to stay within time limits and deadlines, and *planning skills* are defined as the ability to create a road map to reach a goal or to complete a task (Guare et al., 2013). These skills were selected because they are critical to success in high school (Boyer et. al, 2015; Sibley et. al, 2015).

EF Skills in Relation to ADHD

People develop executive functioning skills at different rates and some individuals fail to develop adequate EF skills at all. There are separate diagnoses that indirectly affect the way our brain develops EF skills (Guare et al., 2013). This includes ADHD, autism spectrum disorders, traumatic brain injuries, sleep disorders, depression, and anxiety. What ties these diagnoses so closely with EF skills is that they all affect the development of the prefrontal cortex. Since ADHD affects the development of the prefrontal cortex, many people who have this diagnosis also struggle with developing certain executive skill functions (Guare et al., 2013).

As the brain develops, rarely used connections between brain cells, or synapses are "pruned" meaning they are cut back. This allows the brain to strengthen the connections between brain cells that are used more often. The frontal lobes of the brain are among the last to develop these structural changes; the prefrontal cortex may not be fully developed until the early 20s or later (Johnson, Blum, & Giedd, 2010). For students who have ADHD, this development is delayed even further (Guare et al., 2013). Therefore, students have not yet developed all executive functions by the time they have reached adolescence; yet, they are expected to perform tasks as if they have all these functions fully developed.

ADHD affects approximately 10% of the childhood population, and it is categorized by deficits in EF (CDC, 2017). Students with one of the previously mentioned diagnoses that affects the development of the prefrontal cortex, or having general deficits in EF, often fall behind and are at higher risk of having lower academic achievement, more disruptive classroom behavior, and higher drop out and suspension rates (Boyer et al., 2015).

Higher Demands of Secondary Schooling

According to the stage-environment fit theory, as children transition to adolescence, it is important that their environment changes with them and responds to their changing needs in order for them to experience positive outcomes (Eccles et al., 1993). Everyday tasks rely heavily on EF skills, and impairments in these skills can mean functional impairments in day-to-day activities, including academic learning. Transitioning to middle and high school usually means switching classes and having

multiple teachers. Students are expected to independently manage their time and school work, with more independence than they were given in younger grades (Sibley et. al, 2015). For the first time in their lives, teenagers are asked to complete assignments for multiple classes simultaneously, independently plan for long-term projects, and study for tests (Boyer et al., 2015). However, all of these responsibilities rely on EF skills, which are not yet fully developed by the time students reach adolescence (Guare et al., 2013). Therefore, with the increased independence and responsibility for teens entering middle school, it is very unlikely that impairments related to ADHD will decrease. This transition phase might require additional support in order for students to continue to be successful despite the newfound independence. However, there are not many ADHD interventions or programs developed for teenage students (Fabiano, 2014). The following section discusses a few of the evidence-based programs that could be feasible for middle and high school students.

Current Evidence-Based Programs

Challenging Horizons Program. The Challenging Horizons Program was designed for middle and high school students with ADHD. The first form of the program was an after-school program over the length of an entire school year (Evans, Schultz, DeMars, & Davis, 2011). There were 2-3 sessions per week, each lasting 2.5 hours. It focused on interpersonal skills, academic skills, sports skills, and mentoring. Interpersonal skills targeted social skills and developing a personal identity. The academic skills, which is the part of the program that applies to this present study, focused on the organization of academic materials, effective note-taking, creating flash

cards to study, and keeping track of assignment due dates. Each participant had a mentor that they met with each session to discuss their concerns and receive encouragement on reaching their goals. These sessions were lengthy and there were monthly parent meetings involved. While this program has shown success in multiple studies, session lengths were very long and not always feasible for the average high school student given the fact that it was an extra 5-7.5 hours of work per week outside of full school days (Evans, Langberg, Egan, & Molitor, 2014; Evans, Schultz, DeMars, & Davis, 2011).

The program was modified to fit within in the school day. The modified version focused on the mentoring aspect, and participating staff members met with students weekly to provide instruction for organization and homework tracking (Evans, Langberg, Egan & Molitor, 2014). Because the program was condensed, it focused solely on academic goals, and not interpersonal skills. Evidence shows that the effects of the mentoring program were equivalent to the after-school program, with some advantages and disadvantages.

Homework, Organization, and Planning Skills Intervention. Langberg has published multiple studies on ADHD and EF skills (e.g., 2011, 2012, 2013) and has received numerous grants for his continued research. After publishing several research studies, he found that a commonality for students with ADHD was that they struggle with OTMP skills. They often forget to complete assignments, submit incomplete assignments, and make careless mistakes in their work. In 2008, he published a study that involved implementation of a pilot intervention for students in fourth through seventh grades on organizational skills. During this intervention, researchers taught the students

how to physically organize their school supplies and keep track of homework and assignments in a planner. This study showed that students who struggle to stay organized have more academic difficulties, but that teaching organizational skills can improve their academic achievement. This pilot intervention became the backbone of the HOPS program. Langberg pulled the successful aspects from the Challenging Horizons program mentioned previously, by placing importance on organization, time-management, and planning skills.

The HOPS program is implemented during the school day across 16 sessions (Langberg, Becker, Epstein, Vaughn & Girio-Herrera, 2013). Sessions last no longer than 25 minutes and instruct students how to self-manage and prioritize their schedules. They learn organization systems for binders, backpacks, and lockers (whatever is applicable to their daily life as a student), and are given checklists to self-monitor their progress. There are also two parent sessions included in the 16 sessions, where the parents have the opportunity to understand the skills their child is learning. Daily rewards are encouraged, either through a point system or small, inexpensive rewards.

Previous evaluations of this program have shown great success with middle school students (e.g., Langberg, Dvorsky, & Evans, 2013; Langberg & Epstein et al., 2011; Langberg, Epstein, Becker, Girio-Herrera, & Vaughn, 2012; Langberg & Vaughn et al., 2011). All studies have shown that there was improvement based on parent ratings, but not on teacher ratings of student skills. Grades generally improved. While this program has shown success, it is difficult to implement within the school setting. It lasts

16 weeks, relies heavily on interactions with parents, and has a very specific organization system, which can be difficult to elicit parent buy-in and support.

Coaching Model. Peg Dawson and Richard Guare (2013) developed a "coaching" model, in which students are "coached" in order to learn executive skills. They compare teaching these skills to the way a team coach works with athletes. Coaching allows the clients to manage their attention, hyperactivity, and impulsivity through a collaborative, goal-oriented process (Ahmann et al., 2017). This model, specifically, allows the coach to directly teach the skills, model them for the student, provide corrective feedback, and lots of encouragement in order to help the student achieve his or her goals (Guare et al., 2013). The three main objectives of this model include: working together with the student to establish long-term goals, helping the student understand the connection between day-to-day tasks and behaviors to achieve his or her long-term goals, and having the student practice daily the executive skills that they need to accomplish short-term goals that will lead them to successfully reach his or her long-term goals. The coach works with the student to identify potential obstacles and how to overcome them. The coach will help the student identify specific EF deficits, and explain how to practice these skills daily. In a pilot study, coaches worked with five students and were able to improve their grades significantly. Coaching incorporated self-monitoring, goal-setting, and systematic fading (Ahmann et al., 2017). Based on the success and feasibility of this model and on the available setting, this study will use a similar approach.

The Present Study

The purpose of the present study is to evaluate the effectiveness of teaching organizational, time management, and planning skills at the middle school level through a "coaching" model using materials from Peg Dawson and Richard Guare (2013). There is currently a gap in research evaluating the effectiveness of any executive functioning/organizational intervention working with secondary students. Academic success relies heavily on executive functioning related skills as students get older, and those with ADHD often fall behind. Previous studies evaluating organizational interventions directed at students with ADHD, such as the *Challenging Horizons Program* and *HOPS*, have shown success for elementary and middle school students, but no similar program has been systematically tested with older students (Evans, Langberg, Egan, & Molitor, 2014; Evans, Owens, & Bunford, 2014). The aim of this study is to determine the efficacy of a coaching intervention for middle school students with ADHD and EF deficits.

CHAPTER III

METHOD

Research Question and Prediction

The current study examined the following research question: *How does a coaching intervention affect executive functions and work completion in middle school students with ADHD?*

It was hypothesized that by directly teaching organizational, time management, and planning (OTMP) skills, executive functioning skills would increase and work completion percentage would improve. Previous research found similar findings with younger students, (Abikoff et al., 2013; Evans, Owens & Bunford, 2014; Langberg et al., 2008-2013); therefore, it was theorized that these findings would be consistent with an older population.

Research Design

This study utilized a quasi-experimental design, meaning that there was one group of students who received intervention, while three similar peers were used as a control to compare data results to those who received the intervention. The students who were chosen as a control did not receive any type of additional treatment or instruction.

Participants

Participants in the current study included (n=3) eighth grade students who have a diagnosis of ADHD and also struggle with organization and work completion. Convenience sampling was used to recruit participants from a suburban middle school in the Midwest with a population of approximately 800 students. This region was selected based on the physical location of the researcher.

Participants were referred to the evaluator by special education teachers and were included in the study if they met the following requirements: (a) had a diagnosis of ADHD, (b) had a pattern of missing school assignments, (c) obtained a T-score of 65 or higher (potentially clinically significant or clinically significant) on any subscale of the Behavior Rating Inventory of Executive Function, Second Edition (BRIEF-2; Gioia, Isquith, Guy, & Kenworthy, 2015) completed by a teacher, and (d) returned signed parent consent and student assent forms.

David. David is a 14-year old eighth grade student. He has been enrolled in the district since second grade. He is currently identified as a student with an Other Health Impairment due to an ADHD diagnosis. David currently takes medication for his ADHD. Teachers report that David often struggles to turn in completed assignments by their due date and rarely works on assignments outside of school. He has an executive functioning goal on his IEP to target organization.

According to the BRIEF-2 Teacher-Form completed by his intervention specialist, David is elevated to potentially clinically significant (T-score = 65-69) or clinically significant (T-score = 70 and above) in the following areas: Initiate (T-score=82),

Working Memory (T-score=86), Plan/Organize (T-score=71), Task-Monitor (T-score=76), and Organization of Materials (T-score=88). His cognitive regulation index (CRI) and global executive composite (GEC) were elevated to a clinically significant level (T-score=81 & 70, respectively).

Ava. Ava is a 14-year old eighth grade student. She has been enrolled in the district since fifth grade. She is currently identified as a student with an Other Health Impairment due to an ADHD diagnosis. Ava has never been medicated for her ADHD. Teachers report that Ava struggles to turn in homework assignments and needs extra reminders in order to remember due dates. She has an executive functioning goal on her IEP to target organization.

According to the BRIEF-2 Teacher-Form completed by her intervention specialist, Ava is elevated to potentially clinically significant (T-score = 65-69) or clinically significant (T-score = 70 and above) in the following areas: Initiate (T-score=89), Working Memory (T-score=>90), Plan/Organize (T-score=89), Task-Monitor (T-score=79), and Organization of Materials (T-score=90). Her cognitive regulation index (CRI) and global executive composite (GEC) were elevated to a clinically significant level (T-score= >90 & 76, respectively).

Ryan. Ryan is a 14-year old eighth grade student. He has been enrolled in the district since kindergarten. He currently has a 504 plan to address his ADHD diagnosis. Ryan currently takes medication for his ADHD. Teachers report that Ryan often struggles to remember to turn in his assignments, even if they are completed. He often will forget about tests and quizzes and therefore will forget to study for them.

According to the BRIEF-2 Teacher-Form completed by a general education teacher, Ryan is elevated to potentially clinically significant (T-score = 65-69) or clinically significant (T-score = 70 and above) in the following areas: Inhibit (T-score=68), Emotional Control (T-score=88), and Working Memory (T-score=65). His behavior regulation index (BRI) and emotion regulation index (ERI) were elevated to a potentially clinically significant to a clinically significant level (T-score=65 & 72, respectively). Ryan's global executive composite (GEC) was mildly elevated (T-score=62).

Control group. Three similar students were chosen to be compared to David, Ava, and Ryan. To match the research participants, the control group members consisted of two eighth grade boys and one eighth grade girl, all of whom were identified with ADHD. All struggled with assignment completion according to teacher report and their grades. Two of the students were identified as students with Other Health Impairments due to an ADHD diagnosis (both had an IEP goal in organization) and one of the students was on a 504 plan due to an ADHD diagnosis. Because the study was originally conceived as a multiple baseline across participants design, the control group was not given the BRIEF-2.

Setting

Students were pulled from a study hall class once a week for 25 minutes for eight weeks and met with the researcher in an office setting. All three students received the intervention together; they were taught the same mini skills lesson focused on specific

executive function skills. They then reviewed their individual weekly goals and assignments with the researcher individually after the mini lesson.

Materials/Instrumentation

Intervention materials. Materials used for intervention included worksheets and activities from the *The Work-Smart Academic Planner* (2017) and *Coaching Students with Executive Skills Deficits* (2012), both by Peg Dawson and Richard Guare. Additionally, each week students filled out a Weekly Coaching Form, as well as a SMART (Specific, Measurable, Attainable, Relevant, and Time-based) goal worksheet.

The Weekly Coaching Form is adapted from Peg Dawson and Richard Guare's *Coaching Students with Executive Skills Deficits* (see Appendix B). It has not yet been tested for reliability or validity. It was modified by the researcher in order to make the form more user friendly, rather than have several separate sections to keep track of assignments versus what the student needed to work on. The modified form contains streamlined rows to keep track of assignment due dates and upcoming tests/quizzes as a way to keep students more organized. Additionally, there are columns for students to plan when they are going to start each assignment and where they are going to work. Lastly, it has a spot for students to record when they actually worked on each assignment and how long each assignment took to complete in order to hold them accountable, as well as teach them time management skills. Therefore, the form addresses all three areas of executive function skills targeted in the intervention: organization, time management, and planning.

Measures. The Behavior Rating Inventory of Executive Function, Second Edition (BRIEF-2) assesses impairment of executive function in children and adolescents aged 5 to 18. The BRIEF-2-Teacher Form was used as a screener for this study to confirm that along with their ADHD diagnosis, all participants also had executive functioning deficits. The Teacher Form contains 63 items that assess a wide range of symptoms associated with executive function skills broken into behavior regulation, emotion regulation, and cognitive regulation. The BRIEF-2-Self Report contains 56 items and was used to assess executive functioning skills both before and after intervention and is also broken into the same three indexes of regulation. The BRIEF-2 has a normative sample of 3,603 ratings matched by age, gender, ethnicity, and parent education level to United States Census statistics. There is a reliability coefficient of .80 for the self-report form, and a reliability coefficient of .90 for the teacher form. The BRIEF-2 contains three validity scales to address inconsistency, infrequency, and negativity. Inconsistency refers to the extent to which the respondent answers similar items in an inconsistent manner. Infrequency refers to the extent to which the respondent endorses unlikely events. Negativity refers to the extent to which the respondent answers selected items about the student in an unusually negative manner.

The Behavior Regulation Index (BRI) examines a student's inhibit and self-monitor skills. Inhibit skills refer to a student's ability to control impulses and appropriately stop their own behavior at the proper time. Self-monitor skills refer to a student's ability to keep track of the effect of their own behavior on others. The Emotion Regulation Index (ERI) examines a student's shift and emotional control. Shift refers to a

student's ability to solve problems flexibly and move freely from one situation to another as the situation demands. Emotional control refers to a student's ability to modulate emotional responses appropriately. The Cognitive Regulation Index (CRI) examines a student's initiate (teacher form only), task-completion (self-report form only), task-monitor (teacher form only), working memory, plan/organize, and organization of materials (teacher form only) skills. Initiate skills refer to a student's ability to begin a task or activity independently and at the appropriate time; this skill is only addressed within the BRIEF-2 Teacher form and not on the Self-Report. Task-completion refers to a student's ability to complete schoolwork in a timely fashion and within time limits; this skill is only addressed within the BRIEF-2 Self-Report form and not on the Teacher form. Task-monitor refers to a student's ability to check their own work and assess their performance on a task to ensure attainment of a goal; this skill is only addressed within the BRIEF-2 Teacher form and not on the Self-Report. Working memory refers to a student's ability to hold information in mind for the purpose of completing and sticking with a task. Plan/Organize refers to a student's ability to anticipate future events, set goals, and develop appropriate steps ahead of time to carry out an associated task. Organization of materials refers to a student's ability to keep their work space and materials in an orderly manner; this skill is only addressed within the BRIEF-2 Teacher form and not on the Self-Report. Additionally, the assessment calculates a global executive composite (GEC) based upon all three indexes of regulation to determine an overall ability of executive function skills.

The BRIEF-2 has a mean of 50 and a standard deviation of 10 and scores are divided into the following ranges: Average (59 and below), Mildly Elevated (60-64), Potentially Clinically Elevated (65-69), and Clinically Elevated (70 and above).

Procedures

Phase I: IRB approval. Before data collection, the researcher gained approval from the University of Dayton Institutional Review Board (IRB) and the chosen Midwest middle school.

Phase II: Recruitment, consent, and screening. The researcher sought assistance in participant recruitment from the building's school psychologist and special education teachers. Special education educators referred students to the researcher, and then a record review was conducted to ensure that each student referred was indeed an eighth-grade student, had an ADHD diagnosis, and had a history of missing assignments during previous quarters at the building. Finally, parental consent and student assent were completed and returned to the researcher prior to the start of intervention (see Appendix A).

In order to be included in the study, the following criteria had to be met: the student must have an ADHD diagnosis, struggle with inattention, EF skills and organization, and return a signed parent consent form. A BRIEF-2 Teacher Form was given for each student who met the above criteria in order to ensure that the student struggles with both inattention and executive functioning skills.

Phase III: Baseline. Baseline data for each student was based upon their grades for the first two quarters of the school year, as well as the results from the BRIEF-2 Self-

Report which assessed each participant's self-perception of their executive function skills prior to receiving direct instruction in the area.

Phase IV: Intervention. Student participants met once a week with the researcher in a group setting for a total of eight weeks of intervention. The researcher acted as a coach, or mentor, to each student. Each intervention session lasted approximately 25 minutes where students learned about different executive function skills and strategies to apply within the school setting. Skill lessons were focused mostly in the areas of organization, time management, and planning, specifically on keeping track of due dates, organizing folders and backpacks, and planning time to study and complete homework.

At each meeting with the researcher, students were taught about a different executive skill and how that might challenge them, and then filled out a Weekly Assignment Form (see Appendix B), where the student kept track of assignment due dates and planned time to complete them. They also came up with a weekly SMART goal (a goal that is written in a way to be measurable, achievable, relevant, and time-bound) in order to let them set goals they wanted to accomplish before the next group meeting.

Phase V: Post-intervention data collection. After the eight weeks of intervention time was completed, which was timed to be completed at the end of the third quarter, final student grades for the quarter were reviewed. Grades were also reviewed at the end of the fourth quarter to examine any lasting effects from the intervention. Additionally, participants and teachers were asked to complete the BRIEF-2 once more to

assess each participant's executive function skills after receiving direct instruction in the area.

CHAPTER IV

RESULTS

Following are the results of the executive function coaching intervention for students with ADHD, including an analysis of the pre/post results for each participant.

Data Analyses

To answer the research question: *How does a coaching intervention affect executive functions and work completion in middle school students with ADHD?,* a visual analysis was conducted by the researcher to examine each participant's grades across all four quarters of the school year and their BRIEF 2 ratings before and after intervention.

David

BRIEF-2 analysis - Self-Report. David's BRIEF-2 Self-Report pre-test *global executive composite (GEC)* was within the clinically elevated range (T-score=74). His post-test GEC dropped by 8 points to the potentially clinically elevated range (T-score=66). His *behavior regulation index (BRI)* dropped 8 points from the clinically elevated range to the potentially clinically elevated range from pre-test to post-test (T-score=75 & 67, respectively). His *emotion regulation index (ERI)* dropped 12 points from the clinically elevated range to the mildly elevated range from pre-test to post-test

(T-score=72 & 60, respectively). His *cognitive regulation index (CRI)* dropped 5 points from the clinically elevated range to the potentially clinically elevated range from pre-test to post-test (T-score=72 & 67, respectively).

On the pre-test, David reported the following scales as clinically elevated (70 or above): *Inhibit* (T-score=88), *Shift* (T-score=79), and *Task Completion* (T-score=77). On the pre-test, David reported the following scales as potentially clinically elevated (65-69): *Working Memory* (T-score=66) and *Plan/Organize* (T-score=69). On the pre-test, David reported no scales as mildly elevated (60-64). On the post-test, David reported the following scales as clinically elevated: *Inhibit* (T-score=72) and *Task Completion* (T-score=74). On the post-test, David reported the following scales as potentially clinically elevated: *Working Memory* (T-score=69); no scales were reported as mildly elevated. On the post-test, David reported *Shift* and *Plan/Organize* as average.

For both the pre- and post-test measures of the self-report forms, the infrequency and inconsistency scales were classified as acceptable, thus indicating David provided responses that were consistent. Therefore, both measures were likely reliable ratings of his true self-perception of his executive function skills.

BRIEF-2 analysis – Teacher Report. David's BRIEF-2 Teacher Report pre-test *global executive composite (GEC)* was within the clinically elevated range (T-score=70). His post-test GEC increased by 5 points also within the clinically elevated range (T-score=75). His *behavior regulation index (BRI)* dropped 2 points, both within the average range, from pre-test to post-test (T-score=52 & 50, respectively). His *emotion regulation index (ERI)* increased 3 points within the mildly elevated range from pre-test to post-test

(T-score=60 & 63, respectively). His *cognitive regulation index (CRI)* increased 6 points within the clinically elevated range from pre-test to post-test (T-score=81 & 87, respectively).

On the pre-test, David's teacher reported the following scales as clinically elevated (70 and above): *Working Memory* (T-score=86), *Plan/Organize* (T-score=71), *Task-Monitor* (T-score=76), *Initiate* (T-score=82), *and Organization of Materials* (T-score=88). On the pre-test, David's teacher reported no scales as potentially clinically elevated (65-69) or mildly elevated (60-64). On the post-test, David's teacher reported the following scales as clinically elevated: *Shift* (T-score=73), *Working Memory* (T-score=90), *Plan/Organize* (T-score=84), *Task-Monitor* (T-score=79), *Initiate* (T-score=82), *and Organization of Materials* (T-score=88). No scales were reported as potentially clinically elevated or mildly elevated.

For both the pre- and post-test measures of the teacher forms, the infrequency and inconsistency scales were classified as acceptable, thus indicating David's teacher provided responses that were consistent. Therefore, both measures were likely reliable ratings of his executive function skills.

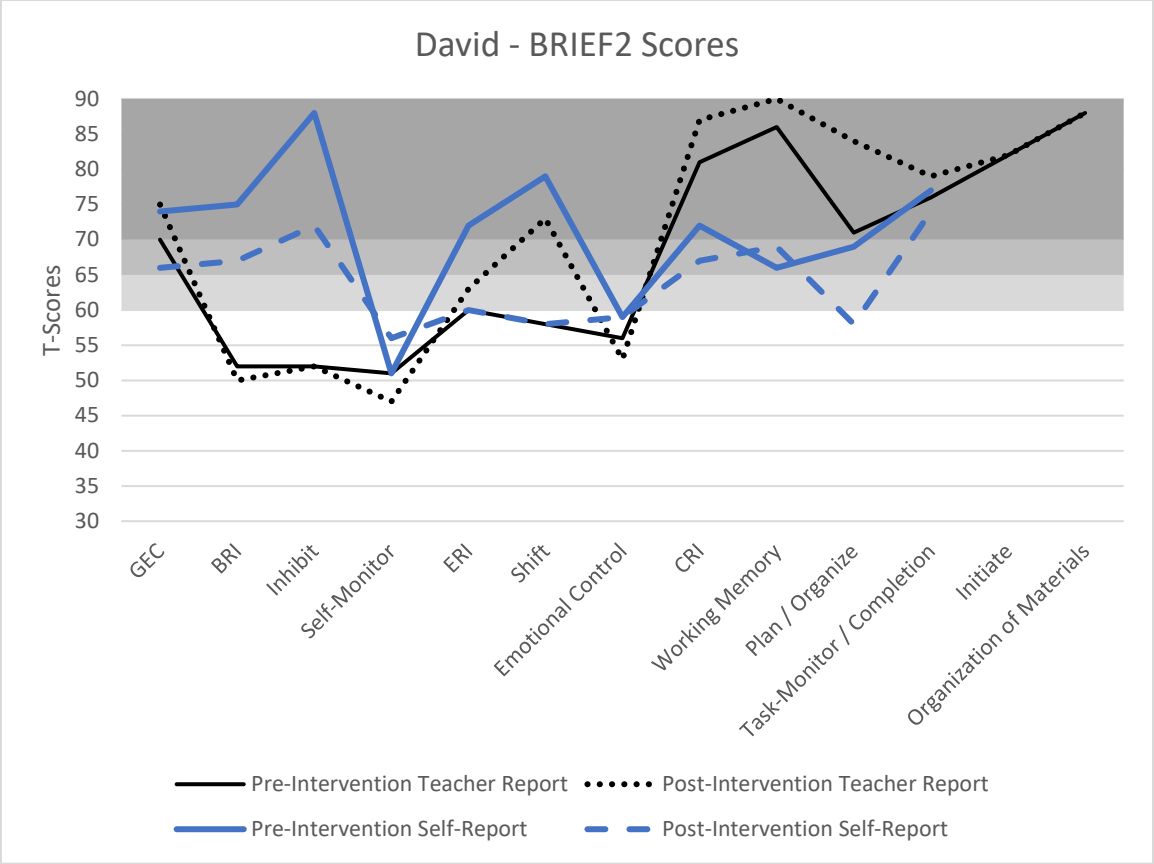

Figure 1. David's Self-Report Pre-and Post-Test Scores Compared to Teacher Pre- and Post-Test on the BREIF-2 Assessment.

Academic impact analysis. In English Language Arts (ELA) class, David's third quarter grade increased by 3 points from the average of his first and second quarter grades. In Math class, David's third quarter grade decreased by 12 points from the average of his first and second quarter grades. In Science class, David's third quarter grade increased by 3.5 points from the average of his first and second quarter grades. In Social Studies class, David's third quarter grade decreased by 0.5 points from the average of his first and second quarter grades.

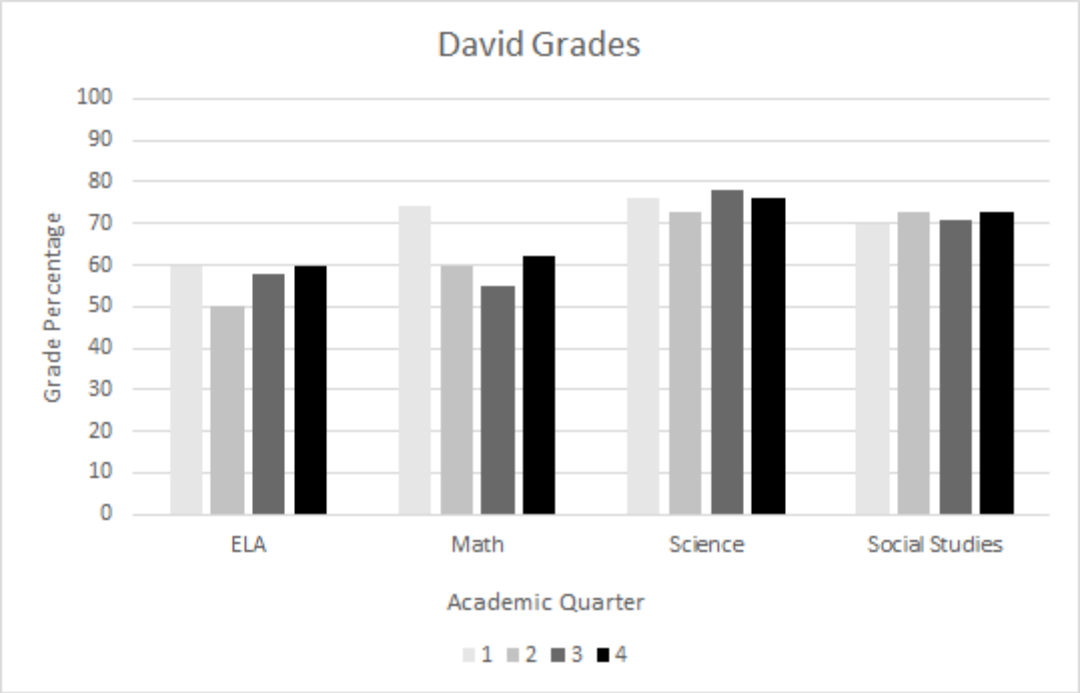

Figure 2. David's Third and Fourth Quarter Post-Intervention Grades compared to Pre-Intervention Grades in Quarter One and Two.

Ava

BRIEF-2 analysis – Self-Report. Ava's BRIEF-2 Self-Report pre-test *global executive composite (GEC)* was within the average range (T-score=49). Her post-test GEC dropped by 5 points also within the average range (T-score=45). Her *behavior regulation index (BRI)* stayed consistent within the average range from pre-test to post-test (T-score=43 & 43, respectively). Her *emotion regulation index (ERI)* dropped 2 points within the average range from pre-test to post-test (T-score=44 & 42, respectively). Her *cognitive regulation index (CRI)* dropped 10 points, both within the average range, from pre-test to post-test (T-score=56 & 46, respectively).

On the pre-test, Ava reported no scales in the clinically elevated range (70 and above) or potentially clinically elevated (65-69). Ava reported the following scale as

mildly elevated (60-64): *Task Completion* (T-score=62). On the post-test, Ava reported no scales as clinically elevated, potentially clinically elevated, or mildly elevated; *Task Completion* was reported as average.

For both the pre- and post-test measures, the infrequency and inconsistency scales were classified as acceptable, thus indicating Ava provided responses that were consistent. Therefore, both measures were likely reliable ratings of her true self-perception of her executive function skills.

BRIEF-2 analysis – Teacher Report. Ava's BRIEF-2 Teacher Report pre-test *global executive composite (GEC)* was within the clinically elevated range (T-score=76). Her post-test GEC decreased by 3 points also within the clinically elevated range (T-score=73). Her *behavior regulation index (BRI)* stayed consistent within the average range from pre-test to post-test (T-score=56 & 56, respectively). Her *emotion regulation index (ERI)* increased 3 points within the average range from pre-test to post-test (T-score=55 & 58, respectively). Her *cognitive regulation index (CRI)* decreased 6 points within the clinically elevated range from pre-test to post-test (T-score=90 & 84, respectively).

On the pre-test, Ava's teacher reported the following scales as clinically elevated (70 and above): *Working Memory* (T-score=90), *Plan/Organize* (T-score=89), *Task-Monitor* (T-score=79), *Initiate* (T-score=89), *and Organization of Materials* (T-score=90). On the pre-test, Ava's teacher reported no scales as potentially clinically elevated (65-69) or mildly elevated (60-64). On the post-test, Ava's teacher reported the following scales as clinically elevated: *Working Memory* (T-score=90), *Plan/Organize*

(T-score=77), *Task-Monitor* (T-score=68), *Initiate* (T-score=78), *and Organization of Materials* (T-score=90). On the post-test, Ava's teacher reported the following scale as potentially clinically elevated: *Shift* (T-score=73); no scales were reported as mildly elevated.

For both the pre- and post-test measures of the teacher forms, the infrequency and inconsistency scales were classified as acceptable, thus indicating Ava's teacher provided responses that were consistent. Therefore, both measures were likely reliable ratings of her executive function skills.

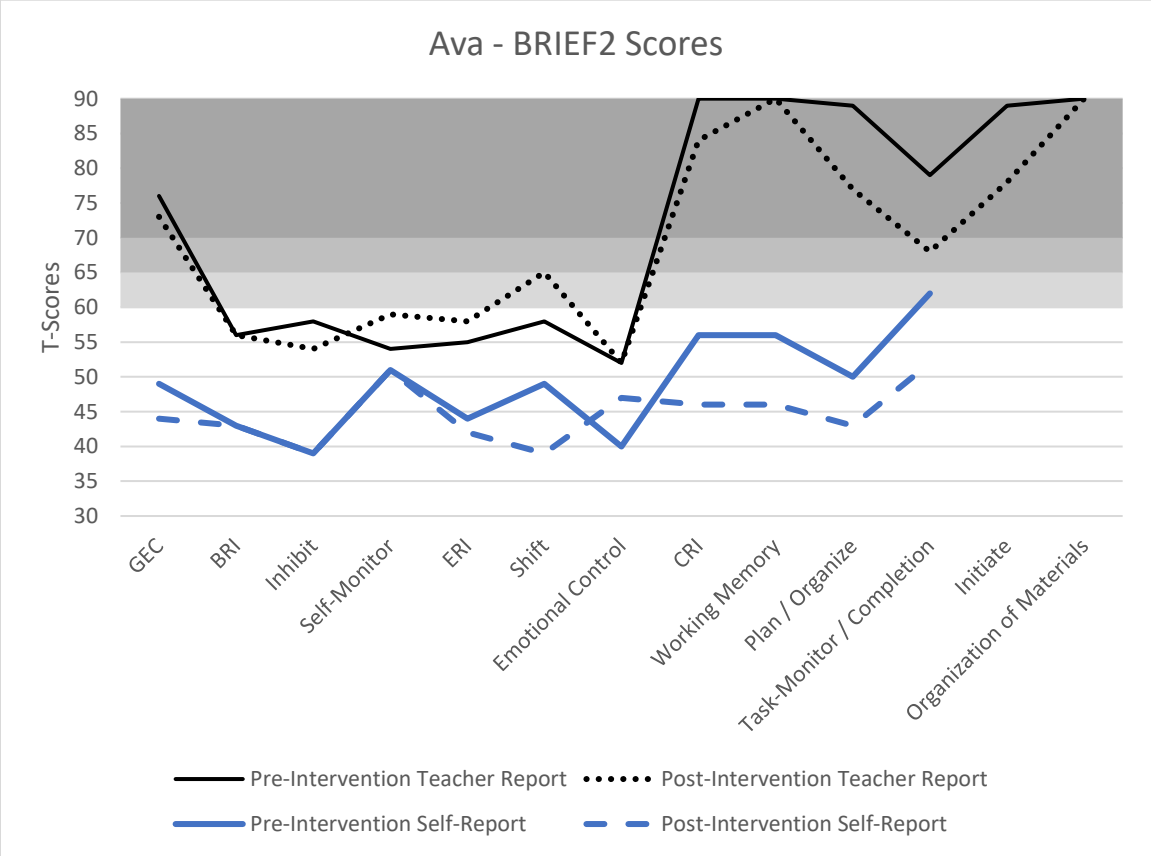

Figure 3. Ava's Self-Report Pre-and Post-Test Scores Compared to Teacher Pre- and Post-Test on the BREIF-2 Assessment.

Academic impact analysis. In English Language Arts (ELA) class, Ava's third quarter grade decreased by 1.5 points from the average of her first and second quarter grades. In Math class, Ava's third quarter grade decreased by 3.5 points from the average of her first and second quarter grades. In Science class, Ava's third quarter grade increased by 6.5 points from the average of her first and second quarter grades. In Social Studies class, Ava's third quarter grade increased by 1 point from the average of her first and second quarter grades.

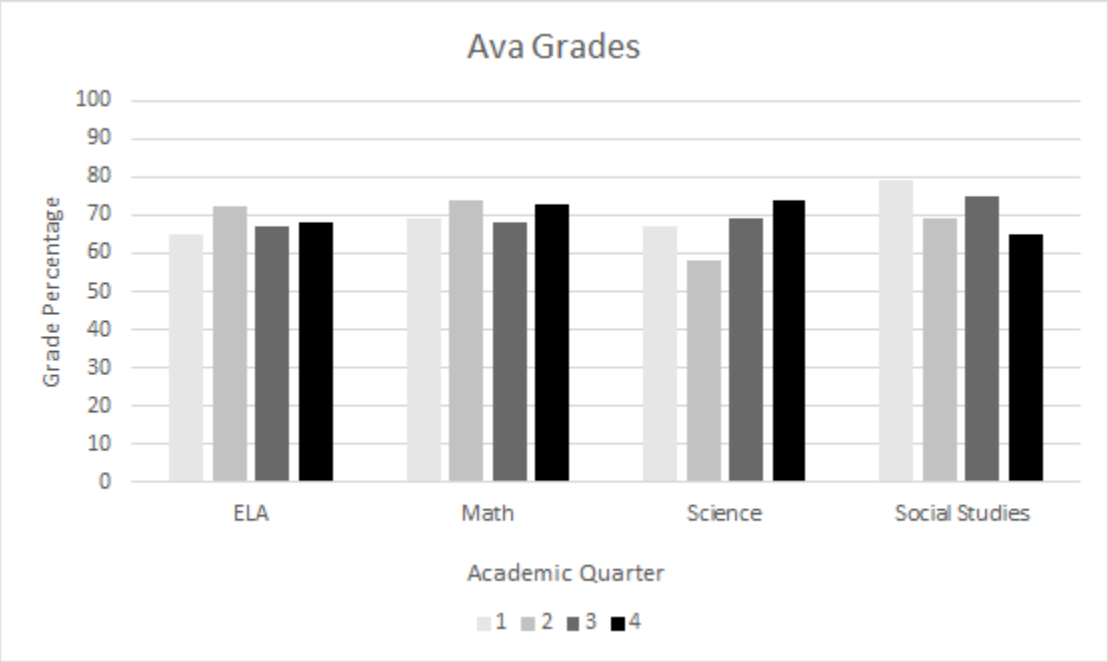

Figure 4. Ava's Third and Fourth Quarter Post-Intervention Grades compared to Pre-Intervention Grades in Quarter One and Two.

Ryan

BRIEF-2 analysis – Self-Report. Ryan's BRIEF-2 Self-Report pre-test *global executive composite (GEC)* was within the potentially clinically elevated range (T-score=66). His post-test GEC dropped by 11 points to the average range (T-score=55).

His *behavior regulation index (BRI)* dropped 21 points from the clinically elevated range to the average range from pre-test to post-test (T-score=75 & 54, respectively). His *emotion regulation index (ERI)* dropped 11 points from the mildly elevated range to the average range from pre-test to post-test (T-score=62 & 51, respectively). His *cognitive regulation index (CRI)* dropped 6 points from the mildly elevated range to the average range from pre-test to post-test (T-score=62 & 56, respectively).

On the pre-test, Ryan reported the following scale as clinically elevated (70 and above): *Inhibit* (T-score=78). On the pre-test, Ryan reported the following scales as potentially clinically elevated (65-69): *Self-Monitor* (T-score=65) and *Shift* (T-score=65). On the pre-test, Ryan reported the following scales as mildly elevated (60-64): *Task Completion* (T-score=64) and *Working Memory* (T-score=63). On the post-test, Ryan reported no scales as clinically elevated, potentially clinically elevated, or mildly elevated; *Inhibit, Self-Monitor, Shift, Task Completion, and Working Memory* were reported as average.

For both the pre- and post-test measures, the infrequency and inconsistency scales were classified as acceptable, thus indicating Ryan provided responses that were consistent. Therefore, both measures were likely reliable ratings of his true self-perception of his executive function skills.

BRIEF-2 analysis – Teacher Report. Ryan's BRIEF-2 Teacher Report pre-test *global executive composite (GEC)* was within the mildly elevated range (T-score=62). His post-test GEC increased by 10 points to the clinically elevated range (T-score=72). His *behavior regulation index (BRI)* increased 10 points, from the potentially clinically

elevated range to the clinically elevated range, from pre-test to post-test (T-score=65 & 75, respectively). His *emotion regulation index (ERI)* increased 4 points within the clinically elevated range from pre-test to post-test (T-score=72 & 76, respectively). His *cognitive regulation index (CRI)* increased 11 points from the average range to the potentially clinically elevated range from pre-test to post-test (T-score=55 & 66, respectively).

On the pre-test, Ryan's teacher reported the following scale as clinically elevated (70 and above): *Emotional Control* (T-score=88). On the pre-test, his teacher reported the following scales as potentially clinically elevated (65-69): *Inhibit* (T-score=68) and *Working Memory* (T-score=65); no scales were reported as mildly elevated (60-64). On the post-test, Ryan's teacher reported the following scales as clinically elevated: *Inhibit* (T-score=71), *Self-Monitor* (T-score=80), *Emotional Control* (T-score=84), and *Organization of Materials* (T-score=73). On the post-test, his teacher reported the following scales as potentially clinically elevated: *Shift* (T-score=65) and *Working Memory* (T-score=68). On the post-test, his teacher reported the following scales as mildly elevated: *Plan/Organize* (T-score=63), *Task-Monitor* (T-score=64) and *Initiate* (T-score=62).

For both the pre- and post-test measures of the teacher forms, the infrequency and inconsistency scales were classified as acceptable, thus indicating Ryan's teacher provided responses that were consistent. Therefore, both measures were likely reliable ratings of his executive function skills.

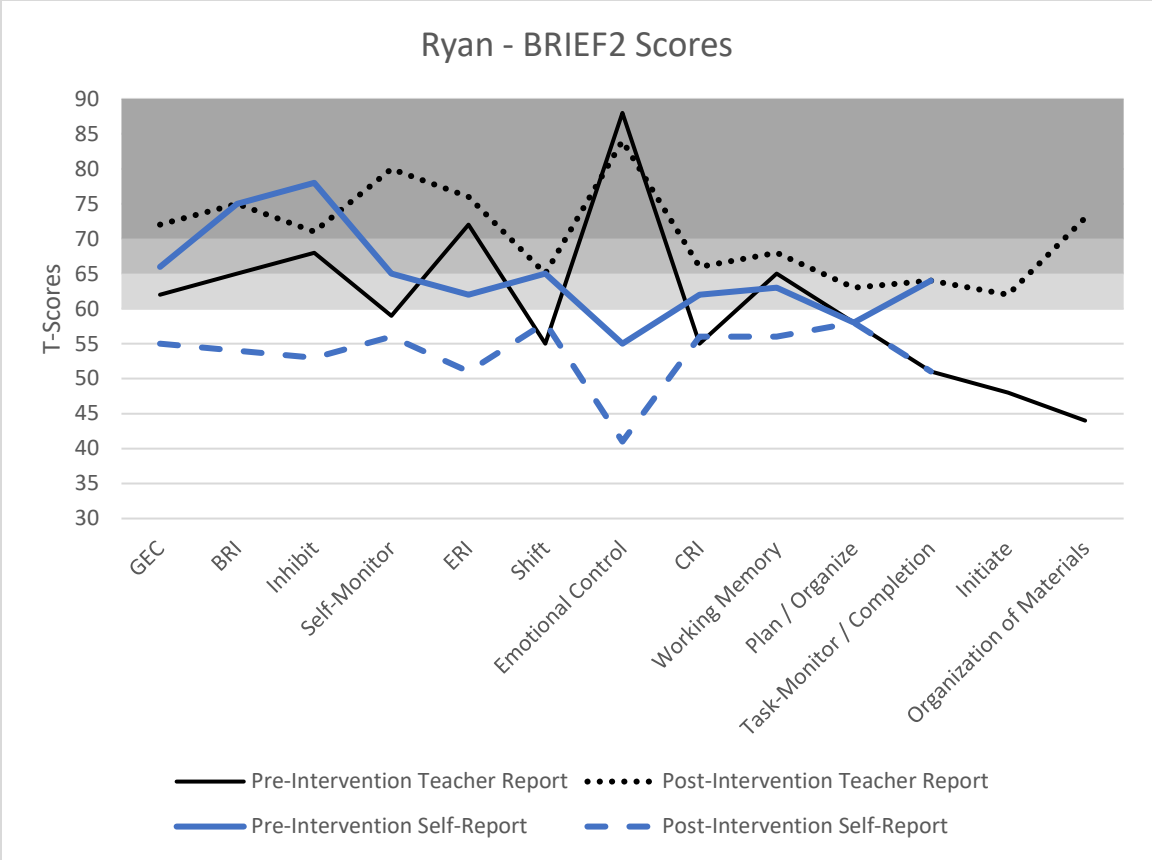

Figure 5. Ryan's Self-Report Pre-and Post-Test Scores Compared to Teacher Pre- and Post-Test on the BRIEF-2 Assessment.

Academic impact analysis. In English Language Arts (ELA) class, Ryan's third quarter grade increased by 2 points from the average of his first and second quarter grades. In Math class, Ryan's third quarter grade decreased by 3 points from the average of his first and second quarter grades. In Science class, Ryan's third quarter grade increased by 1 point from the average of his first and second quarter grades. In Social Studies class, Ryan's third quarter grade increased by 0.5 points from the average of his first and second quarter grades.

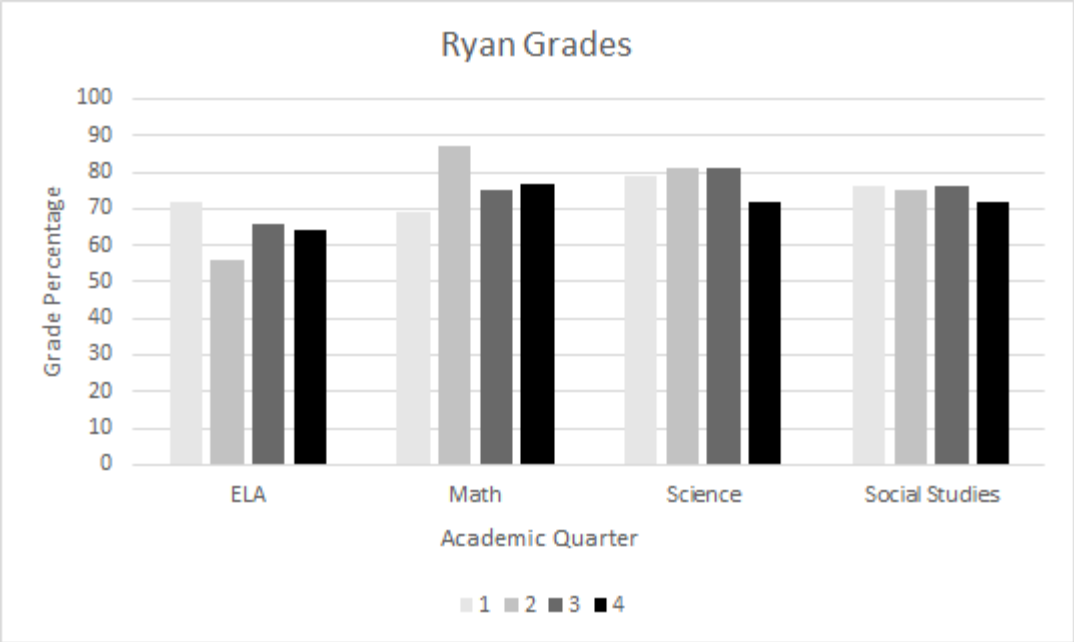

Figure 6. Ryan's Third and Fourth Quarter Post-Intervention Grades compared to Pre-Intervention Grades in Quarter One and Two.

Cross Participant Comparison

BRIEF-2 analysis. When comparing scores on the BRIEF-2, a lower score exemplifies an increase in executive function skills (lower report of struggles), and a higher score exemplifies a decrease in executive function skills (higher report of struggles). The *global executive composite* (GEC) was compared for each participant pre- and post-intervention through both teacher report and self-report. The GEC is a summative score that incorporates all clinical scales of executive functioning skills within the assessment. Additionally, the *cognitive regulation index* (CRI) was compared for each participant pre- and post-intervention through both teacher report and self-report. The CRI provides a score that is directly related to the executive functioning skills taught throughout intervention, including skills related to organization, time management, and planning.

David and Ryan's teachers reported more concerns relating to their executive functioning skills as reported by their GEC and CRI after intervention. Ava's teacher reported less concerns relating to her executive functioning skills as reported by her GEC and CRI after intervention. David, Ava, and Ryan all reported less concerns relating to their executive functioning skills after intervention as reported by their GEC and CRI from their self-reports.

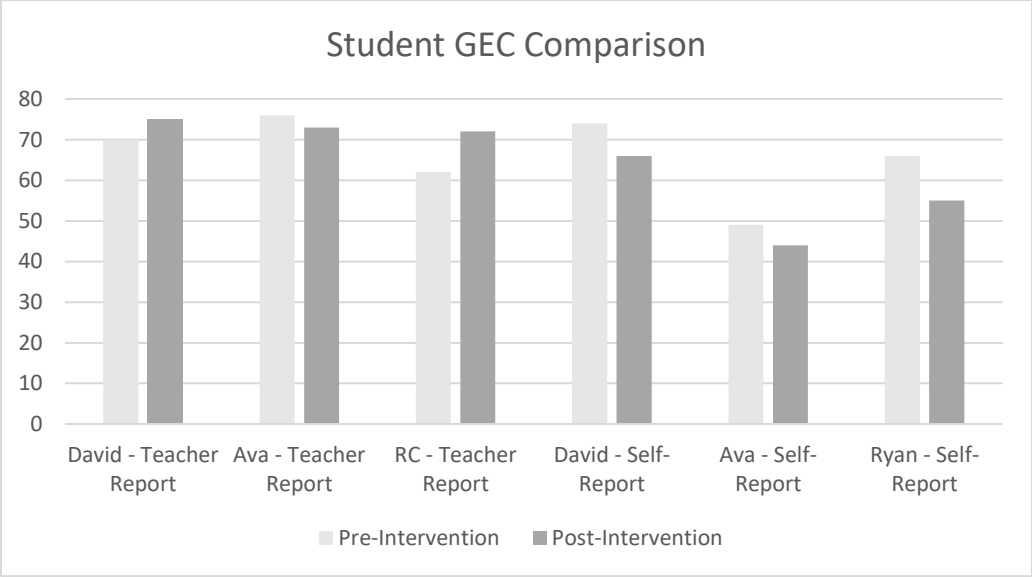

Figure 7. Comparison of GEC Across All Participants.

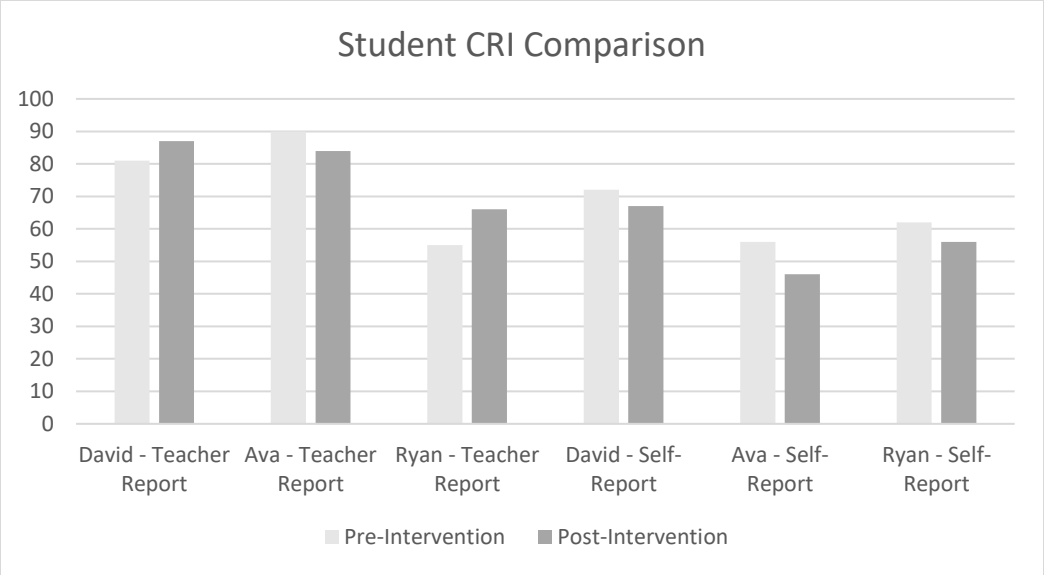

Figure 8. Comparison of CRI Across All Participants.

Academic impact analysis. The average of each student's earned numerical grade was calculated for each quarter and then compared across each quarter of their 8th grade school year. All participants showed a decrease in average grades between quarters one and two. All students showed an increase in average grades between quarters two and three, which was during the quarter when the intervention from the present study was provided. Between quarters three and four, which was after the intervention was provided, David and Ava showed an increase in average grades while Ryan showed a decrease in average grades.

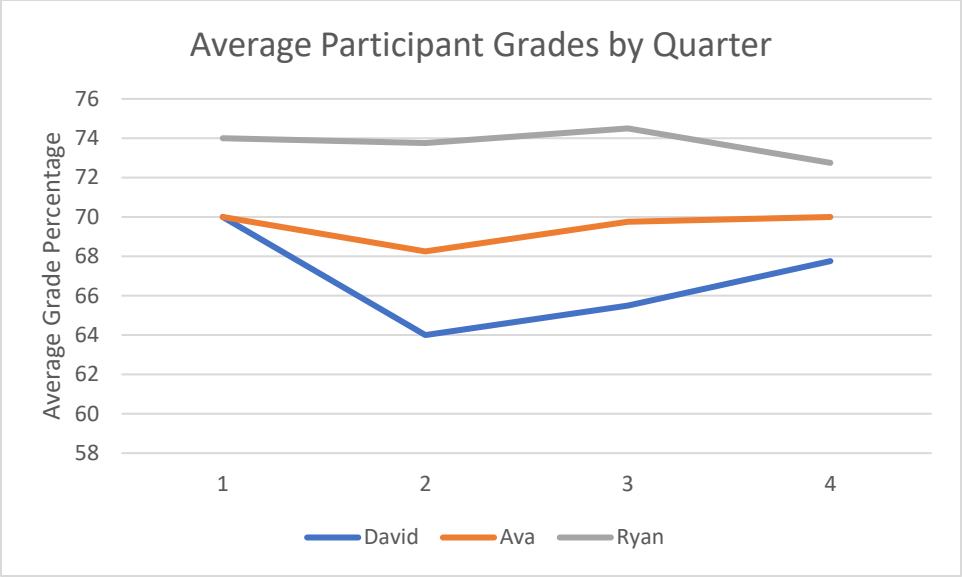

Figure 9. Comparison of Grades During All Four Quarters Across All Participants.

Control Group Results

Student A. Student A. did not receive any intervention to address executive function deficits related to his or her ADHD diagnosis outside of previously received IEP goals/504 accommodations.

Academic impact analysis. In English Language Arts (ELA) class, Student A.'s third quarter grade decreased by 3.5 points from the average of his first and second quarter grades. In Math class, Student A.'s third quarter grade increased by 4.5 points from the average of his first and second quarter grades. In Science class, Student A.'s third quarter grade decreased by 5 points from the average of his first and second quarter grades. In Social Studies class, Student A.'s third quarter grade increased by 2 points from the average of his first and second quarter grades.

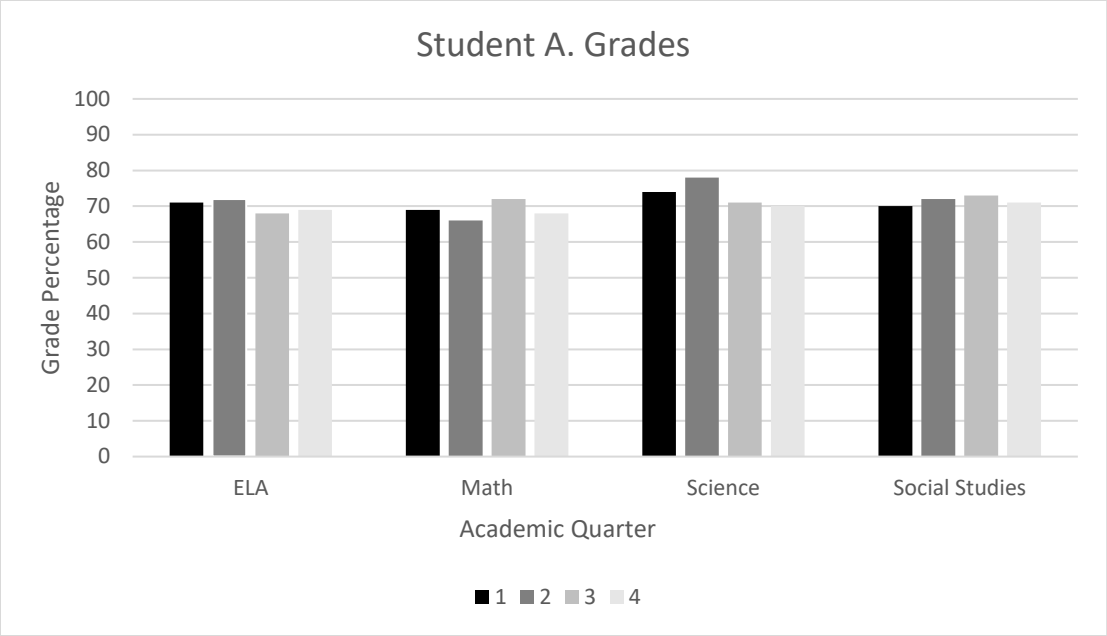

Figure 10. Student A.'s Quarterly Grades.

Student B. Student B. did not receive any intervention to address executive function deficits related to his or her ADHD diagnosis outside of previously received IEP goals/504 accommodations.

Academic impact analysis. In English Language Arts (ELA) class, Student B.'s third quarter grade increased by 1 point from the average of his first and second quarter grades. In Math class, Student B.'s third quarter grade increased by 3.5 points from the average of his first and second quarter grades. In Science class, Student B.'s third quarter grade decreased by 3.5 points from the average of his first and second quarter grades. In Social Studies class, Student B.'s third quarter grade increased by 4.5 points from the average of his first and second quarter grades.

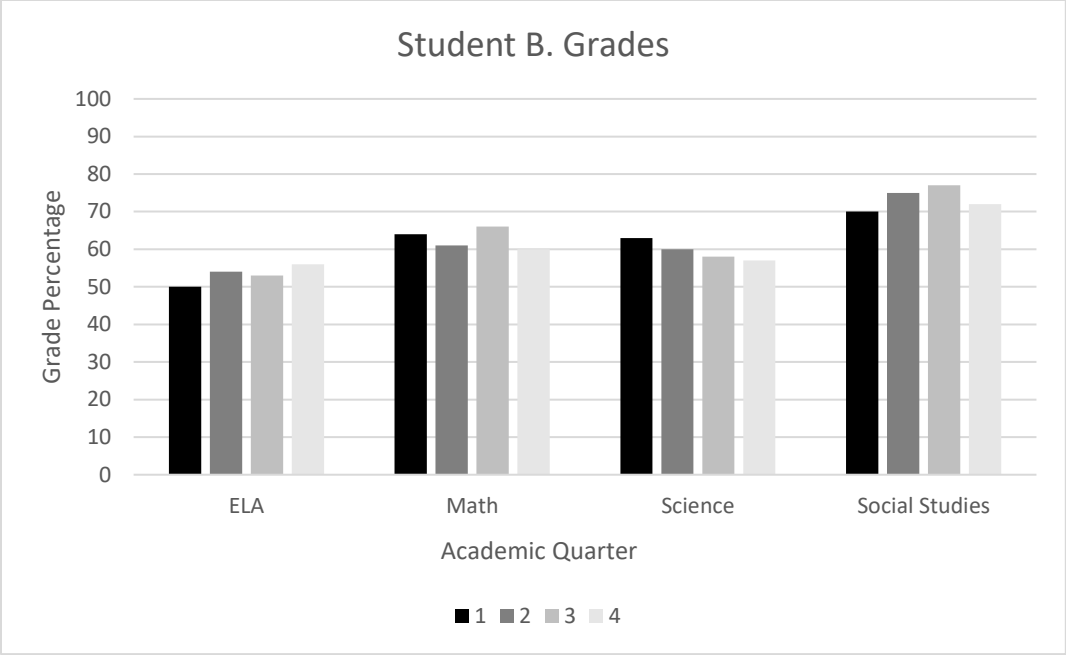

Figure 11. Student B.'s Quarterly Grades.

Student C. Student C. did not receive any intervention to address executive function deficits related to his or her ADHD diagnosis outside of previously received IEP goals/504 accommodations.

Academic impact analysis. In English Language Arts (ELA) class, Student C.'s third quarter grade decreased by 2 points from the average of his first and second quarter grades. In Math class, Student C.'s third quarter grade decreased by 5 points from the average of his first and second quarter grades. In Science class, Student C.'s third quarter grade increased by 6 points from the average of his first and second quarter grades. In Social Studies class, Student C.'s third quarter grade decreased by 2.5 points from the average of his first and second quarter grades.

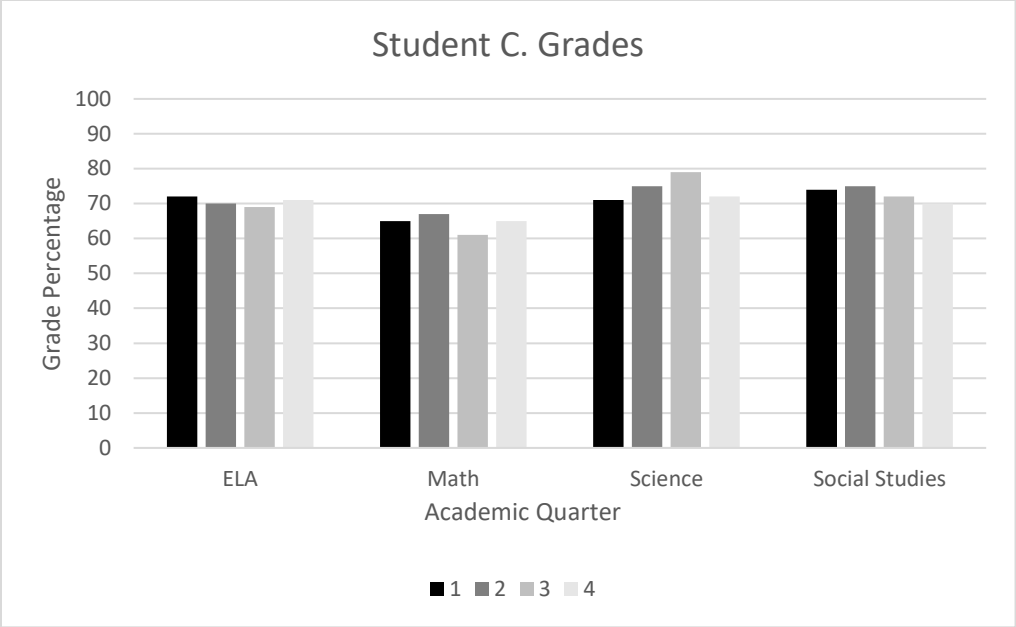

Figure 12. Student C.'s Quarterly Grades.

CHAPTER V

DISCUSSION

Review of Purpose and Major Findings

Students with ADHD typically struggle with executive function skills, including higher order cognitive processes which allow us to make decisions, stay organized, plan ahead, and adapt to changes in our environment (Samuels, Tournaki, Blackman, & Zilinski, 2016).

Many people develop executive functioning skills along an average trajectory as they age. However, people develop these skills at different rates and some individuals fail to develop adequate executive function skills at all. Students have not yet developed all executive functions by the time they have reached adolescence; yet, they are expected to perform tasks as if they have all of these functions fully developed. Transitioning to middle school usually means switching classes and having multiple teachers. Students are expected to independently manage their time and school work, with more independence than they were given in younger grades (Sibley et. al, 2015). For the first time in their lives, teenagers are asked to complete assignments for multiple classes simultaneously, independently plan for long-term projects, and study for tests (Boyer et al., 2015).

However, all of these responsibilities rely on executive function skills, which are not yet fully developed by the time students reach high school (Guare et al., 2013).

The purpose of this study was to evaluate the effectiveness of teaching organizational, time management, and planning skills at the middle school level through a "coaching" model. While all three participants self-reported increases in their EF skills, as measured by their BRIEF-2 Self-Report, their grades did not improve.

Interpretation of Findings Relative to Predictions

Executive functioning. All three participants demonstrated increased self-perception of their executive function skills at the conclusion of the intervention. One explanation for the increased executive function skills could be that the participants were learning how to apply strategies learned from the mini skills lessons to their weaker areas of executive functioning and felt more confident about their knowledge in these areas when answering questions. Additionally, students tend to under-report their problem areas. However, there were mixed results in teacher-reported perception of the same three students' executive functioning skills. One teacher reported a slight increase in executive function skills, another reported no change, and another reported a significant decrease in executive functioning skills for one student. A possible explanation for these results could be that the teachers only knew the students for a few months when they first filled out the rating scales and then got to know the students better throughout the school year when they recompleted the rating scales at the end of the year. Another possible explanation could be that the teachers did not know the purpose behind filling out the

first rating scale, and then they were told the purpose of the study upon recompleting the rating scale for a second time post-intervention, which could have affected their answers.

Similar previous studies have also shown no change in teacher perceptions of executive functioning skills immediately following an executive functioning intervention. Following several studies working with middle school students through the HOPS program, teachers did not report an improvement of teacher ratings of executive functioning skills, while parents did (e.g., Langberg, Dvorsky, & Evans, 2013; Langberg & Epstein et al., 2011; Langberg, Epstein, Becker, Girio-Herrera, & Vaughn, 2012; Langberg & Vaughn et al., 2011).

Academic impact. All three participants showed an increase in grades throughout the academic quarter that the intervention was conducted. The impact of the intervention might not be discernable from third quarter grades, as the students were still learning when to apply the skills; therefor fourth quarter grades were also examined in order to see if there was an effect after the students learned the skills. Two out of the three students continued to show a slight increase in the fourth quarter, after the intervention was over and the students were no longer being coached on a weekly basis. This suggests that students did benefit from meeting with a coach every week to review assignments, although they might have not internalized the learned executive functioning skill strategies to apply them independently.

Additionally, this strategy of coaching has been effective in other studies. In a pilot study of Peg Dawson and Richard Guare's coaching model, coaches were able to improve student grades significantly; however, the coach met with students more than

once a week, starting with daily coaching and then introducing systematic fading (Guare et al., 2013). Meeting with students once a week may have not provided substantial enough practice in order to see improvement academically.

Limitations

Limitations to this study include a small sample size and using an available population rather than a randomized group. Identifying participants through convenience sampling and having a small sample size prevents the findings from being generalized across the population. It was difficult to run statistics on this program to track progress throughout the intervention. Creating a way to provide progress monitoring data would allow for more concrete report of how successful the program was. Additionally, while the methods of the coaching intervention have been systematically reviewed, the intervention is not yet considered an evidence-based strategy.

Further, gathering participant buy-in in completing the Weekly Coaching Form was a challenge. Treatment acceptability was low when first tested at the high school level, as students were not motivated to attend the session nor complete the form outside of the session. Originally, the study was conceived as a multiple baseline across participants design at a high school. However, due to difficulty with recruitment, timing of the study, and teacher support, the study was altered to examine a younger population in a group setting rather than meeting individually each week. The high school students would fail to come to the session, even when called down from the office for it. However, treatment acceptability was higher at the middle school where students filled out the coaching form within the group session rather than on their own. The middle school

students reported that they enjoyed coming to the sessions and learned strategies that they felt like they could apply within the school setting. To draw in more high school students, incentives could be offered to increase motivation. Additionally, meeting more often and supporting them in filling out their homework assignments and to-do lists on a more regular basis could be beneficial. One possible explanation for students not filling these things out on a weekly basis could be that they were unsure how to and that they need explicit instruction on what to include on their lists. Treatment integrity was high, as the researcher had control over the agenda and schedule for each session (see Appendix C).

Students in a middle and high school setting have developed ways of coping with their personal challenges regarding executive function skill sets, and exposure to new strategies will take further practice than one academic quarter of coaching. Therefore, no progress monitoring data was able to be gathered, and instead the study focused on pre- and post-intervention data. Additionally, since the researcher was not an employee within the middle school, there was no direct access each week to a list of missing assignments and instead was based solely on student report. All student participants often reported they had no missing assignments, while teacher reports at mid-quarter and end-of-quarter suggested otherwise. This suggests that either student buy-in for the intervention was low, or that the students were truly unaware of what assignments they were not keeping track of. Further research should examine this. Finally, despite the large effect size in self-perception of executive function skills, there was no direct impact on student's academic performance for the quarter nor did teachers report an increased application of

executive functioning skills within the classroom, implying that while student's might self-perceive improved executive function skills, they are not applying them.

Implications for Practice

Due to the high prevalence of ADHD in school-aged children and adolescents, along with the growing demand on executive function skills as a child progresses through school, it is important to provide evidence-based interventions and resources to these students to help them find success in school. School psychologists are trained in meeting the social-emotional needs of students and can play in essential role in recognizing the signs and symptoms associated with ADHD, and educating students and staff about strategies and resources that can address the lack of executive function skills in students with ADHD. Due to the increased self-perception of participants' executive function skills in this study, directly teaching students with ADHD about EF skills could positively impact them; however, a more rigorous program or layering additional practice might be necessary. Additionally, students did show an increased numerical grade average throughout the intervention. Academic coaching supports students by holding them accountable to completing assignments. Meeting with students on a more frequent basis could possibly show more success in their academics.

Implications for Future Research

This study can be expanded upon and replicated in various ways in order to generalize findings to a larger population of students. Future research should utilize a larger, more diverse sample population in order to increase reliability, validity, and generalization to other populations. Additionally, future research should focus on the

"coach" being an adult that the student already has a relationship with and has access to their grades and assignment logs. Future research should develop a stronger sense of progress monitoring data in order to track student progress throughout an entire academic semester. Future studies could also examine the impact of combining the coaching model with other evidence-based interventions and strategies to improve executive function skills. Lastly, further evaluation of the research materials to test the validity and reliability.

Conclusion

The present study examined the impact of directly teaching executive function skills to students with ADHD through a coaching model. Results of the study did not support the idea that that teaching executive skills alone improved academic achievement. Students did show increased grades while they were being coached, but this was inconsistent after the intervention was over. However, student participants did self-report increased executive function skills. Further research is needed to determine whether or not that will have an impact on students' academics in the future, as well as to determine the effectiveness of the intervention.

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APPENDIX A

IRB Materials and Consent/Assent Letters

LAKOTA LOCAL SCHOOLS

ADHD/Organization Study Skills Mentoring

Dear Parent(s)/Guardian(s):

My name is Elizabeth Keller and I am the Intern School Psychologist for Lakota Local Schools. My job is to help all our students succeed both academically AND socially.

High school can be a difficult transition as students are now required to keep track of assignments on their own between several different teachers. This can be especially hard for students who struggle with attention and/or have a diagnosis of ADHD.

My job will be to act as a mentor to your student over the next 8 weeks to help them learn to organize their class assignments and materials, plan time to study, and learn an efficient way to keep track of due dates.

Students will meet one-on-one with me once a week for 25-minute sessions in order to receive direct instruction in organization and time management skills. I will keep track of their progress, as well as check in with their teachers to look at grades of turned-in work. **This data will be used as part of my graduate level thesis at the University of Dayton. All information will be kept confidential, and no identifying information about your student will be used.**

If you would like your child to work with me, please complete, sign and return the following forms to school. This form must be signed for your child to start these sessions.

Please call or email me with any questions, concerns, or progress that you may wish to hear about. I look forward to working with your student and help them be the most successful student they can be this year!

Sincerely,
Elizabeth Keller
Intern School Psychologist

Lakota Local Schools
(513) 600-0338
kellere4@udayton.edu

PARENTAL CONSENT FORM

Student's Name: **DOB:** **Age:** **Grade:**

Parent/Guardian(s):

Dear Parent:

Your child has been recommended to receive small group instruction within the school day. The focus of the sessions will be in the following areas:

- **Work completion, organization, time management and planning.**
- Students will learn strategies to help manage their time, organize their class materials, and plan time to study and complete homework.

Session Information:

- Who is leading? – Elizabeth Keller, Intern School Psychologist
- When? – once a week for 8 weeks during study hall.
- Who? – group will consist of 3-4 8th graders

**Additionally, Elizabeth will examine the growth of these skills throughout the intervention period. Some of the data may be used within her graduate level thesis through the University of Dayton which will examine the effectiveness of the intervention. All data will be kept confidential throughout the entire process and no identifying information about students will be shared within Elizabeth's research or thesis. There are no adverse effects or risks anticipated for this study.

If any questions arise about the research study, you may contact Elizabeth (elizabeth.keller@lakotaonline.com), Greg Carr (LJS School Psychologist - greg.carr@lakotaonline.com), or Susan Davies (Thesis chair - sdavies1@udayton.edu).

The granting of consent for this small group for your child is voluntary. Please check one of the boxes below and sign on the space provided.

☐ **I grant permission to have my child participate in the small group.**

☐ **I deny permission to have my child participate in the small group.**

Signature*_____

Relationship to student_____

Date_____

Please return this form to:

Elizabeth Keller, M.S. Ed.
School Psychologist Intern
Lakota Local School District
elizabeth.keller@lakotaonline.com

OR

Greg Carr, M.S. Ed.
School Psychologist
Liberty Junior School
greg.carr@lakotaonline.com

STUDENT ASSENT FORM

Contact Information: Elizabeth Keller
kellere4@udayton.edu (513) 600-0338

Name: _____ Age/Grade: _____

- I am asking you to be a part of this research study because I am trying to learn more about working with students with ADHD and the effectiveness of this coaching intervention.
- Your name and other identifying information WILL NOT be used – only the data from your progress.
- You will meet with Ms. Keller once a week for 8 weeks in order to learn organization, time management, and planning skills in order to help you become more successful in school.

Signing below means that are have read this form and are willing to have your data from this intervention used in Ms. Keller's research study.

Student Signature: _____ Date: _____

APPENDIX B

WEEKLY COACHING FORM

Assignment	Due Date	How long will it take?	When will you start?	Where will you work?	Actual start/stop times		Submitted (√)

APPENDIX C

Treatment Integrity

Completed? (Y/N)	**INTERVENTION STEPS**
	1. Met with participants.
	2. Reviewed and discussed an executive function skill.
	3. Discussed a strategy that can be applied related to a deficit in the skill.
	4. Students worked on the Weekly Coaching Form and added assignments, due dates, and planned time to work on them.
	5. Discussed assignments with researcher individually, and whether they have completed previous assignments.
	6. Created a weekly SMART goal to accomplish before the following session.
	7. Discussed SMART goal with researcher individually. (Both the current weeks and whether or not they accomplished the previous week's goal).
_____/3	**Total**